

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

CONDITIONAL WAIVER ORDER NO.

CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED LANDS
WITHIN THE CENTRAL VALLEY REGION

The California Regional Water Quality Control Board, Central Valley Region (hereafter Regional Board) finds that:

1. The Central Valley Region has more than seven million acres of cropland under irrigation and several thousand individuals and agencies involved in generating wastewater that falls into the category of “discharges from irrigated lands.”
2. The Central Valley Region has thousands of miles of surface waters that are dominated by discharges of waste from irrigated lands. The quality of these discharges may adversely impact beneficial uses of waters of the state.
3. Whether an individual discharge of waste from irrigated lands may affect the quality of waters of the state depends on the quantity of the discharge, quantity of the waste, the quality of the waste, the extent of treatment, soil characteristics, distance to surface water, depth to groundwater, crop type, management practices and other site-specific factors. Waste discharges from some agricultural operations have and will continue to threaten the quality of the waters of the state as shown by the number of water bodies listed on the Clean Water Act section 303(d) of impaired list due to agricultural discharges and other information contained in the Regional Board’s records.

**RATIONALE FOR CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS**

4. California Water Code (CWC) section 13260 requires that any person who is discharging waste, or proposing to discharge waste (other than to a community sewer system), which could affect the quality of the waters of the state within the Central Valley Region, shall file a Report of Waste Discharge (ROWD) with the Regional Board.
5. CWC section 13263 requires the Regional Board to prescribe Waste Discharge Requirements (WDRs), or waive WDRs, for the discharge. The WDRs must implement relevant water quality control plans and the CWC.
6. CWC section 13269 authorizes the Regional Board to waive WDRs for a specific discharge or specific type of discharge if the following conditions are met: 1) the waiver is not against the public interest, 2) the waiver is conditional and may be terminated at any time, and 3) compliance with waiver conditions are required, and 4) a public hearing has been held. The Regional Board may terminate a waiver at any time.

7. In 1982, the Regional Board adopted Resolution No. 82-036 that included a conditional waiver of Waste Discharge Requirements for 23 categories of dischargers, including “irrigation return water” and “storm water runoff”. Pursuant to CWC section 13269, these waivers terminated on 1 January 2003. On 5 December 2002, prior to the termination of the 1982 waiver, the Regional Board adopted Resolution No. R5-2002-0201 and a Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands Within the Central Valley Region. This Conditional Waiver Order, hereafter referred to as “Waiver Order” modifies Resolution No. R5-2002-0201 and the previously adopted Conditional Waiver.
8. The Regional Board has reviewed the existing Conditional Waiver related to irrigation return water and stormwater runoff from irrigated lands and has determined that additional conditions are required to protect water quality.
9. The State Water Resources Control Board (State Board) has adopted the “Plan for California’s Nonpoint Pollution Control Program” dated January 2000. The purpose of the NPS Program Plan is to improve the State's ability to effectively manage NPS pollution and conform to the requirements of the federal Clean Water Act and the federal Coastal Zone Act Reauthorization Amendments of 1990. The plan describes a three-tier approach for addressing nonpoint source pollution. Conditional waivers of waste discharge requirements are characterized as a second-tier process.. Resolution No. 82-036 and Resolution R5-2002-0201 implemented conditional waivers as a second-tier regulatory process to meet the requirements of the California Water Code. The third-tier process, Waste Discharge Requirements, may be implemented for one or more types of irrigated lands discharges covered by this Waiver Order if it is determined that it is not effective in ensuring that water quality is protected and/or improved.
10. One purpose of this Waiver Order is to provide an alternative regulatory option to adoption of Waste Discharge Requirements and to individual regulation of Dischargers. Dischargers may seek coverage under this Waiver Order in a Watershed Group rather than on an individual basis. This Waiver Order requires Dischargers to comply with the applicable water quality control plans and other requirements, including compliance with water quality objectives and standards and receiving water limitations, and protection against pollution and nuisance. It is not expected that Dischargers will achieve full compliance with the conditions contained herein during the term of this Conditional Waiver, which has a term of three years. The Regional Board has directed staff to prepare an Environmental Impact Report in compliance with the California Environmental Quality Act to evaluate alternatives to achieve compliance with the conditions and receiving water limitations to protect the waters of the state for its beneficial uses in a ten year time period. To comply with this Conditional Waiver, individual Dischargers or Watershed Groups are required to submit various technical reports, conduct monitoring of surface waters, implement and evaluate effective management practices, monitor the effectiveness of management practices, implement revised or new management practices if the discharge is not in compliance with conditions to protect the waters of the state or protect against nuisance, and report to the Regional Board the results of water quality and management practice monitoring. The management practices should be designed to achieve compliance with the General Conditions and Receiving Water Limitations contained in this Conditional Waiver.

11. Various regional Watershed Groups have formed to address issues regarding the discharge of wastewater and stormwater from irrigated lands to waters of the state. These Watershed Groups have the potential for identifying and correcting water quality impacts without the need for the third-tier regulatory process. The formation, operation and funding of these and other Watershed Groups are the responsibility of local entities and/or individual Dischargers.
12. Individual Dischargers are not required by the Regional Board to join in Watershed Groups to be covered by this Conditional Waiver. Individual Dischargers who choose not to participate in Watershed Groups may file for coverage under this Waiver Order or file a Report of Waste Discharge for general or individual Waste Discharge Requirements.
13. Whether an individual Discharger is in a Watershed Group or not, if regulated by this Conditional Waiver, individual Dischargers must take action to comply with the terms and conditions of this Waiver Order and protect water quality.

SCOPE OF THIS WAIVER ORDER

14. In order to effectively regulate discharges from irrigated lands within the Central Valley Region, it is appropriate to distinguish between the different types of agriculture, geographic locations, crops, source water, and management practices for treating and disposing of agricultural wastewater and stormwater from irrigated lands.
15. The intent of this Waiver Order is to regulate discharges from irrigated lands, which includes surface discharges (also known as tailwater), operational spills, subsurface drainage generated by irrigating crop land or by installing drainage systems to lower the water table below irrigated lands (wastewater) and storm water runoff flowing from irrigated lands regardless of whether it originates on the Discharger's property or on upslope lands.
16. Irrigated lands are lands where water is applied for producing crops and, for the purpose of this waiver, includes, but is not limited to, land planted to row, field and tree crops as well as commercial nurseries, nursery stock production, managed wetlands and rice production. These discharges will be further evaluated by the Regional Board, as time and resources allow, to determine if this Waiver Order is adequate to improve and/or protect water quality and its beneficial uses. This evaluation will: characterize discharges from these types of Dischargers; assess the effectiveness of management practices implemented; and evaluate the impact of these discharges.
17. These discharges can and/or do contain wastes that could affect the quality of the waters of the state. The discharge of tailwater, wastewater and/or stormwater from irrigated lands occurs to both surface and groundwater.
18. This Waiver Order does not apply to discharges that are subject to the National Pollutant Discharge Elimination System (NPDES) permit program under the Clean Water Act. Discharges from irrigated lands that constitute agricultural return flows are exempt from regulation under the NPDES permit program. This Waiver Order does not apply to discharges of waste that are

regulated under another Conditional Waiver, individual or general Waste Discharge Requirements, or Basin Plan prohibitions.

19. This Waiver Order may be terminated at any time by the Regional Board and may be revised by the Regional Board after a hearing. The Executive Officer may terminate the applicability of this Waiver Order with respect to a specific Discharger upon notice to the Discharger.
20. At this time, it is appropriate to order a Conditional Waiver of WDRs for this category of discharges because: the discharges have the same or similar waste in the same or similar operations, use the same or similar treatment methods and management practices (i.e., source control, reduced use, holding times, cover crops), and the Regional Board has limited information of facility specific information, and limited water quality data on facility specific discharges. In addition, it is appropriate to regulate this category of agricultural facilities under a Conditional Waiver rather than individual or general WDRs in order to simplify and streamline the regulatory process while additional facility and water quality information is collected over the term of the Conditional Waiver, and an Environmental Impact Report (EIR) for a ten year implementation program is prepared to assess regulatory alternatives to ensure the protection of water quality.

APPLICATION PROCESS

21. A Watershed Group or an individual Discharger may apply for authorization to discharge under this Waiver Order as specified in the **Part D, Application Process** below. The Watershed Group or individual Discharger must submit a complete Notice of Intent (NOI), which shall constitute a Report of Waste Discharge (ROWD) and a filing fee. After Regional Board staff determines that the NOI is complete and the Watershed Group or individual Discharger qualifies for the Conditional Waiver, the Executive Officer will issue a Notice of Applicability (NOA) to the Discharger.
22. CWC section 13260 states that any person discharging waste covered under WDRs shall submit an annual fee as part of the ROWD. Title 23 California Code of Regulation (CCR) section 2200 establishes the fee based on the threat and complexity of the discharge. **Attachment A**, which is attached hereto and made part of this Waiver Order by reference, identifies various types of dischargers and discharges based on a threat and complexity of category I C, II C and category III C, pursuant 23 CCR section 2200(a)(1)(A). **Attachment A** identifies the filing fees for category I C, II C and III C. The discharge of waste from the types of discharges regulated under this Waiver Order threaten or impact water quality to different degrees. The degree of threat or impact is based on the type and number of constituents used, amount used, the amount of runoff and percolation, the location of the farm as it relates to surface water bodies, size of the farm, management of tailwater, wastewater and stormwater. Also factored into the three categories is the amount of time required to review a ROWD for the type of discharger or discharge to determine if the discharge complies with the terms and conditions of the Conditional Waiver.
23. If an NOA is issued by the Executive Officer, some of the filing fee may be refunded and no annual fee will be required as specified in current regulations.

REGULATORY CONSIDERATIONS

24. The Regional Board's *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* and the *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plans) designate beneficial uses, establish water quality objectives, contain implementation plans and policies for protecting waters of the basin, and reference the plans and policies adopted by the State Board.
25. The existing and potential beneficial uses of waters of the state within the Central Valley Region include: municipal and domestic supply; agricultural supply; industrial process and service supply; power; water contact recreation; non-contact water recreation; warm and cold freshwater habitat; warm and cold migration; warm and cold spawning; wildlife habitat; navigation; rare, threatened, and endangered species; freshwater replenishment; and groundwater recharge.
26. The existing and potential beneficial uses of the groundwater underlying the Central Valley Region are municipal and domestic supply, agricultural supply, industrial process supply, and service supply.
27. This Waiver Order establishes conditions that apply to the discharge of irrigation wastewater and stormwater from irrigated lands to waters of the state.
28. For purposes of adoption of this Waiver Order the Regional Board is the lead agency pursuant to the California Environmental Quality Act (CEQA)(Public Resources Code sections 21100 et seq.). On 5 December 2002, the Regional Board approved an Initial Study and Negative Declaration in Resolution No. R5-2002-0201. This Waiver Order revises the Conditional Waiver contained in Resolution No. R5-2002-0201 but does not substantially change the project considered in the Initial Study and Negative Declaration and, therefore, no changes have been made to the CEQA documents.
29. State Water Resources Control Board (State Board) Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California") requires a regional board, in regulating the discharge of waste, to maintain high quality waters of the state (i.e., background water quality) until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the state, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in a regional board's policies (e.g., quality that exceeds water quality objectives). Further, any activity that produces a waste must be required to meet WDRs that will result in the best practicable treatment or control to assure that (a) pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the state will be maintained. This Waiver Order sets forth conditions that will require dischargers to monitor to determine impacts to water quality and to evaluate and implement management practices that will result in achieving water quality objectives and standards in the waters of the state, and to conduct activities in a manner to prevent nuisance. The Regional Board has not regulated the discharges subject to this Waiver Order to this extent in the past. Such regulation will result in the highest water quality consistent with the maximum benefit to the people of the state.

30. California Water Code section 13267(b) provides that: “In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”
31. The technical reports required by this Waiver Order and the attached “Monitoring and Reporting Program No. _____” are necessary to evaluate compliance with the conditions set forth in this Conditional Waiver.
32. Pursuant to CWC section 13263(g), discharge is a privilege, not a right, and adoption of this Conditional Waiver, and the receipt of an NOA from the Executive Officer, does not create a vested right to continue the discharge.
33. The adoption of this Waiver Order is not against the public interest because (1) it was adopted in compliance with CWC sections 13260, 13263 and 13269 and other applicable law, (2) it includes conditions that are intended to prevent pollution and nuisance and protect the beneficial uses of the waters of the state, (3) it contains more specific and more stringent conditions for protection of water quality compared to either the 1982 Waiver or the existing Conditional Waiver adopted by the Regional Board on 5 December 2002, (4) given the magnitude of and number of persons that discharge waste from irrigated lands it provides for an efficient and effective use of limited staff resources, (5) it provides reasonable flexibility for the persons who seek coverage under the Waiver Order by providing for Watershed Groups or individual discharger compliance, and (6) it provides for the submission of reasonable fees for review of ROWDs.
34. It is not appropriate at this time to adopt individual or general waste discharge requirements to regulate discharges of waste from irrigated lands because there are more than 25,000 individual persons that discharge waste from irrigated lands and it is not feasible due to staff resources to adopt WDRs in a reasonable time. In addition, although there is information that discharges of waste from irrigated lands have impacted the waters of the state, information concerning the specific locations of impacts, specific causes, and specific types of waste is not generally available. The conditions of this Waiver Order will result in the development of new information that may provide a more reasonable basis for the adoption of individual or general WDRs in the future. This Waiver Order provides that it may be terminated at any time and the Executive Officer may require any person to submit a ROWD and seek WDRs.
35. This action to waive the issuance of WDRs for specific type of discharges: (a) is conditional, (b) may be terminated at any time, (c) does not permit an illegal activity, (d) does not preclude

the need for permits that may be required by other state or local government agencies, and (e) does not preclude the Regional Board from administering enforcement remedies (including civil liability) pursuant to the CWC.

PUBLIC NOTICE

36. Interested persons were notified of the intent to adopt a conditional waiver of waste discharge requirements for discharges from irrigated lands, including irrigation wastewater and/or stormwater, to surface waters as described in this Waiver Order and were provided an opportunity for a public hearing and an opportunity to submit written comments.
37. In a public hearing, all comments pertaining to this Waiver Order were heard and considered.

IT IS HEREBY ORDERED that, Resolution No. R5-2002-0201, dated 5 December 2002, adopting the Conditional Waiver are hereby rescinded, and pursuant to California Water Code sections 13263, 13267 and 13269, Dischargers (Watershed Groups or individual Dischargers) of irrigation wastewater and/or stormwater from irrigated lands to waters of the state, who file for coverage under this Waiver Order in order to meet the provisions contained in California Water Code Division 7 and regulations and plans and policies adopted thereunder, and who request waiver of waste discharge requirements shall comply with the following terms and conditions:

A. Definitions

1. Irrigated lands – lands where water is applied for the purpose of producing crops. For the purpose of this Conditional Waiver, commercial nurseries, nursery stock production, managed wetlands and rice production are considered irrigated lands.
2. Irrigation return flow – surface and subsurface water which leaves the field following application of irrigation water.
3. Tailwater – the runoff of irrigation water from the lower end of an irrigated field.
4. Operational spill – irrigation water that is diverted from a source such as a river, but is discharged without being delivered to or used on an individual field.
5. Stormwater runoff – the runoff of precipitation from the lower end of an irrigated field.
6. Subsurface drainage – water generated by installing drainage systems to lower the water table below irrigated lands. This drainage can be generated by subsurface drainage systems, deep open drainage ditches or drainage wells.
7. “Discharger” means the owner and/or operator of irrigated land planted to row, field and tree crops, including, but is not limited to, a farming or agricultural operation, commercial

nurseries, nursery stock production and managed wetlands that discharges irrigation tailwater and/or stormwater to waters of the state.

8. Watershed Group - As used in this waiver, the term Watershed Group shall include any group of individuals and organizations that form to comply with the Conditional Waiver. Watershed Groups can be organized on a geographic basis or can be groups with other factors in common such as commodity organizations.
9. "Requirement of applicable water quality control plans" means a water quality objective, prohibition, TMDL implementation plan, or other requirement contained in water quality control plans adopted by the Regional Board and approved according to applicable law. (Excerpts of the Regional Board's current Basin Plan are included in **Attachment B**. **Attachment B** may be revised periodically.)
10. "Monitoring" refers to all types of monitoring undertaken in connection with determining water quality conditions and factors that may affect water quality conditions, including but not limited to, in-stream water quality monitoring undertaken in connection with agricultural activities, monitoring to identify short and long-term trends in water quality, active inspections of operations, management practice implementation and effectiveness monitoring.
11. All other terms shall have the same definitions as prescribed by the Porter-Cologne Water Quality Control Act (California Water Code Division 7), unless specified otherwise.

B. General Conditions:

1. The Discharger shall not cause or contribute to conditions of pollution or nuisance as defined in CWC section 13050.
2. The Discharger must comply with all requirements of applicable water quality control plans.
3. The Discharger shall not cause or contribute to exceedances of any Regional, State, or Federal numeric or narrative water quality standard.
4. The Discharger shall allow Regional Board staff reasonable access onto the affected property whenever requested by Regional Board staff for the purpose of performing inspections and conducting monitoring, including sample collection, measuring, and photographing/taping to determine compliance with conditions of this Conditional Waiver.
5. The Discharger shall comply with applicable time schedules.

6. Any Discharger seeking coverage under this Waiver Order shall file a Notice of Intent (i.e., a Report of Waste Discharge) or the applicable eligibility document(s) and appropriate filing fee as described herein with the Regional Board.
7. The Discharger shall not be authorized to discharge pursuant to the Waiver Order until a complete NOI and appropriate filing fee has been received by the Regional Board and the Discharger receives a Notice of Applicability issued by the Executive Officer.
8. The Discharger shall not discharge any waste not specifically regulated by this Conditional Waiver. Waste specifically regulated under this Waiver Order includes: earthen materials, including soil, silt, sand, clay, rock; inorganic materials, (such as metals, salts, boron, selenium, potassium, nitrogen, etc.); organic materials, such as pesticides that enter or threaten to enter into waters of the state. Examples of waste not specifically regulated under this Waiver Order include, hazardous materials, and human wastes.
9. Objectionable odors due to the storage of wastewater and/or stormwater shall not be perceivable beyond the limits of the property owned or operated by the Discharger.
10. Watershed Groups shall comply with **General Conditions B.1, B.2, B.3, B.8, and B.9** and **C. Receiving Water Limitations** in accordance with the time schedules specified in **F. Provisions**.
11. Watershed Groups shall implement management practices necessary to comply with **B. General Conditions** and **C. Receiving Water Limitations** according to the time schedule contained in applicable reports in **F. Provisions**.
12. Watershed Groups shall comply with Watershed Group Monitoring and Reporting Program No. ____, which is part of this Conditional Waiver, or as revised by the Executive Officer.
13. Dischargers shall comply with **General Conditions B.1, B.2, B.3, B.8, and B.9** and **C. Receiving Water Limitations** in accordance with the time schedules specified in **F. Provisions**.
14. Dischargers shall evaluate and implement management practices that comply with **B. General Conditions** and **C. Receiving Water Limitations** according to the time schedule contained in applicable reports in **F. Provisions**.
15. Dischargers shall comply with Monitoring and Reporting Program No. ____, which is part of this Conditional Waiver, or as revised by the Executive Officer.
16. A copy of this Waiver Order and the Discharger's NOI and NOA must be kept at the Location of Record for reference by personnel. Key operating and site management personnel must be familiar with the contents.

17. In the event that the Discharger chooses to terminate authorization under this Conditional Waiver, the Discharger shall submit a complete Notice of Termination (NOT), as found in Attachment B, which is attached hereto and made part of this Order by reference. Termination from coverage will occur on the date specified in the NOT, unless specified otherwise. All discharges shall cease before the date of termination, and any discharges on or after this date shall be considered in violation of this Conditional Waiver, unless the discharge is covered by WDRs or an alternative waiver of WDRs.
18. The NOI, NOT, monitoring reports, technical reports, and any other information requested by the Regional Board shall be signed by a person described as follows, or a duly authorized representative of that person. For a corporation: by a principal executive officer of at least the level of senior vice-president. For a partnership or sole proprietorship: by a general partner or the proprietor. For a municipality or public agency: by either a principal executive officer or ranking elected or appointed official. For Watershed Groups: a representative authorized by the Watershed Group and identified in the submitted NOI.
19. Any person signing a NOI, NOT, monitoring report, or technical report makes the following certification, whether written or implied:

“ I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”
20. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Waiver Order by letter, a copy of which shall be immediately forwarded to the Executive Officer and appropriate Watershed Group.
21. The Discharger shall take all reasonable steps to prevent any discharge in violation of this Conditional Waiver.
22. In the event that the Discharger does not comply, or will be unable to comply, with any condition or limitation of this Conditional Waiver, the Discharger shall notify Regional Board staff by telephone as soon as it or its agents have knowledge of such noncompliance or potential for noncompliance and shall confirm this notification in writing within two weeks. The written notification shall state the nature, time, and cause of noncompliance, shall describe the measures being taken to prevent recurrences, and shall include a timeline for corrective actions.

23. The Discharger shall maintain in good working order and operate as efficiently as possible any facility, control system, including management practices and monitoring devices installed to achieve compliance with this Conditional Waiver.
24. For any electrically operated equipment at the site, the failure of which could cause loss of control or containment of the waste materials, or violation of this Conditional Waiver, the Discharger shall employ safeguards to prevent loss of control of the waste. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.
25. The Discharger must comply with all conditions of this Conditional Waiver, including timely submittal of all technical reports and monitoring reports. Violations may result in enforcement action under the CWC, including Regional Board orders, the imposition of civil liability, cessation of coverage under this Conditional Waiver, or referral to the Attorney General.

C. Receiving Water Limitations

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plans. As such, they are a required part of this Conditional Waiver. The discharge of waste shall not cause the following in the receiving water, unless otherwise stated in the Basin Plan:

1. Concentrations of dissolved oxygen to fall below 7.0 mg/l or 5.0 mg/l as specified in the Basin Plans.
2. Oils, greases, waxes, or other materials to form a visible film or coating on the water, surface or on the stream bottom.
3. The normal ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 units.
4. Oils, greases, waxes, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.
5. Aesthetically undesirable discoloration.
6. Fungi, slimes, or other objectionable growths.
7. The turbidity to increase as follows:
 - a. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.
 - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs.

8. Deposition of material that causes nuisance or adversely affects beneficial uses.
9. The normal ambient temperature to be altered more than 5°F.
10. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.
11. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
12. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
13. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
14. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board pursuant to the Clean Water Act and regulations adopted thereunder.

D. Application Process

1. A Watershed Group or individual Discharger (Discharger) seeking coverage to discharge under this Waiver Order shall submit a "Letter of Intent for Waiver Order Coverage" by the time schedule identified in Provision F.3. The letter shall clearly state the intent of the Discharger to obtain coverage to discharge under the terms and conditions of the Waiver Order as a Watershed Group or as an individual Discharger. The letter shall also state the commitment to complete and submit required reports by the time schedule specified in Provision F.3. Watershed Groups shall submit a map of the area included within the specific Watershed Group and a preliminary list of participants (individual Dischargers) that intend to be included within the Watershed Group.
2. A Discharger seeking coverage to discharge under this Waiver Order shall submit a complete NOI, including the appropriate filing fee for a Category I-C, II-C or III-C discharge pursuant to Title 23 California Code of Regulations section 2220. Category I-C, II-C and III-C Dischargers are identified in **Attachment A**. The NOI shall constitute a ROWD. Watershed Groups or individual Dischargers may submit the NOI for coverage under the Conditional Waiver. The NOI must include supporting information and the applicable filing fee. The NOI must be submitted to the Regional Board with a filing fee for it to be

considered complete. An example of a NOI is attached to this Waiver Order as **Attachment C**, which is attached hereto and made part of this Waiver Order by reference.

3. Coverage under this Waiver Order will be extended to a Discharger who submits a complete NOI and the Discharger receives a Notice of Applicability (NOA) from the Executive Officer. The Executive Officer will issue an NOA upon determining that the NOI is complete and it indicates compliance with the Conditional Waiver.
4. The Discharger shall submit an updated NOI when there is any material change in the information submitted in the original ROWD.

E. Termination Of Coverage under this Conditional Waiver

1. The Executive Officer of the Regional Board may terminate coverage under this Waiver Order for any Discharger upon notice to the Discharger.
2. The Executive Officer may require any Discharger to apply for individual or general WDRs.
3. In the event that the Discharger wishes to terminate coverage under this Conditional Waiver, the Discharger shall submit a complete *Notice of Termination* (NOT), **Attachment D**, which is attached hereto and made part of this Order by reference. Termination from coverage will occur on the date specified in the NOT, unless specified otherwise. All discharges shall cease before the date of termination, and any discharges on or after this date shall be considered in violation of this Conditional Waiver, unless other Waiver of WDRs, General WDRs or individual WDRs cover the discharge.

F. Provisions

1. The terms and conditions prescribed herein do not authorize the commission of any act causing injury to the property or another, or protect the Discharger from liabilities under federal, state, or local laws. This Waiver Order does not convey any property rights or exclusive privileges.
2. All technical and monitoring reports submitted pursuant to this Waiver Order are required pursuant to CWC section 13267. Failure to submit reports in accordance with schedules established by this Conditional Waiver, the attachments of this Conditional Waiver, or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer, may subject the Discharger to enforcement action pursuant to CWC section 13268.
3. Pursuant to CWC section 13267, the following Reports shall be submitted to the Regional Board according to the following time schedule to ensure compliance with the terms and conditions of this Conditional Waiver:

A. Watershed Groups

<u>Task</u>	<u>Compliance Date</u>
Letter of Intent for Waiver Order Coverage	30 June 2003
NOI, General Report ¹ and filing fee remittance	1 September 2003
Detailed Report ¹	1 March 2004
Monitoring and Reporting Program Plan	1 March 2004
First Annual Monitoring and Reporting Program Report ¹	1 March 2005

B. Individual Dischargers

<u>Task</u>	<u>Compliance Date</u>
Letter of Intent for Waiver Order Coverage	30 June 2003
NOI ² and filing fee remittance	1 September 2003
Monitoring and Reporting Program Plan ²	1 March 2004
First Annual Monitoring and Reporting Program Report ²	1 March 2005

¹ NOI submittal requirements are provided in the Waiver Order, General, Detailed and Monitoring and Reporting report requirements are provided in Watershed Group Monitoring and Reporting Program No.

² NOI submittal requirements are provided in the Conditional Waiver. The Management Practice and Monitoring Report requirements are provided in Individual Discharger Monitoring and Reporting Program No.

4. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Waiver Order shall be available for public inspection at the Regional Board offices. Data on waste discharges, water quality, geology, and hydrology shall not be considered confidential.
5. The discharge of any waste not specifically regulated by this Waiver Order described herein is prohibited unless the Discharger complies with CWC section 13260(a) and the Regional Board either issues waste discharge requirements pursuant to CWC section 13263 or an individual waiver pursuant to CWC section 13269 or the time frames specified in CWC section 13264(a) have elapsed;
6. The Regional Board will review this Waiver Order periodically and will revise the requirements when necessary.
7. The Waiver Order shall become effective 24 April 2003 and expire 31 December 2005 unless rescinded, renewed or extended by the Regional Board

CONDITIONAL WAIVER ORDER NO.
CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS
WITHIN THE CENTRAL VALLEY REGION

- 15 -

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____.

THOMAS R. PINKOS, Executive Officer

WAC: 9 April 2003

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

FEE SCHEDULE

TO COMPLY WITH THE TERMS UNDER
CONDITIONAL WAIVER ORDER NO.

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

California Water Code Section 13260 requires persons who are required to file a report of waste discharge (ROWD) to submit a fee to the State Water Resources Control Board in the amount specified in Title 23 California Code of Regulations (CCR) Section 2200 based on the category determined by the Regional Water Quality Control Board (Regional Board). The Regional Board has determined, pursuant 23 CCR Section 2200(a)(1)(A), that discharges from irrigated land regulated under the Conditional Waiver are considered to have a threat and complexity of I C, II C and III C depending on several factors. The NOI submitted to the Regional Board under the terms and conditions of this Conditional Waiver Order shall not be considered complete until the Discharger submits the appropriate filing fee with each NOI. The NOI shall constitute a ROWD.

Table 1 – Filing Fee Category for specific Dischargers and Discharges

Type of Discharger or Discharge	I C	II C	III C
Watershed Group NOI	X		
District Group NOI	X		
Mutli-Farm Group NOI (>10)		X	
Districts which have operational spills or otherwise discharge		X	
Farms > 200 acres		X	
Farms ≤ 200 acres			X
Organic Farms > 500 acres		X	
Organic Farm ≤ 500 acres			X
Nurseries > 10 acres		X	
Nurseries ≤ 10 acres			X
Farms that discharge only stormwater			X

At the time that the Conditional Waiver was adopted, the NOI filing fee for Category I C is \$6,750.00. The filing fee for Category II C is \$2,025.00. The filing fee for Category III C is \$400.00. The State Water Resources Control Board may revise these fees by amending the applicable regulations.

ATTACHMENT A
CONDITIONAL WAIVER No.
CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 2 -

If an individual Discharger is participating in a “Watershed Group” for the purposes of complying with the terms and conditions of this Conditional Waiver Order, the Watershed Group identifies the individual Discharger as part of the Watershed Group, and the Watershed Group has filed a complete NOI and filing fee with the Regional Board, the individual Discharger is not required to file a NOI and submit a filing fee with the Regional Board.

WAC
2 April 2003

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

**REQUIREMENTS OF APPLICABLE WATER QUALITY CONTROL PLANS
FOR
DISCHARGES FROM IRRIGATED LANDS TO SURFACE WATERS**

TO COMPLY WITH THE TERMS UNDER

CONDITIONAL WAIVER ORDER NO.

CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED LANDS

From the Water Quality Control Plans (Basin Plans) for the California Regional Water Quality Control Board, Central Valley Region:

The Sacramento River Basin and San Joaquin River Basin, Fourth Edition – 1998

The Tulare Lake Basin, Second Edition – 1995

Identical Water Quality Objectives for inland surface waters from both Basin Plans

The following are some of the applicable water quality objectives that relate to irrigated lands activities. For a complete list of the water quality objectives, refer to the Basin Plans. Also, please note that the Basin Plans are revised periodically.

Color - Water shall be free of discoloration that causes nuisances or adversely affects beneficial uses.

Sediment - The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Settleable Material - Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

Suspended Material - Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Toxicity - All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. Compliance with this objective will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, and biotoxicity tests of appropriate duration or other methods as specified by the Regional Water Board.

The Regional Water Board will also consider all material and relevant information submitted by the Discharger and other interested parties and numerical criteria and guidelines for toxic substances developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the California Department of Health Services, the U.S. Food and Drug Administration, the National Academy of Sciences, the U.S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective.

The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors shall not be less than that for the same water body in areas unaffected by the waste discharge, or, when necessary, for other control water that is consistent with the requirements for "experimental water" as described in *Standard Methods for the Examination of Water and Wastewater*, latest edition. As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour bioassay.

In addition, effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate; additional numerical receiving water quality objectives for specific toxicants will be established as sufficient data become available; and source control of toxic substances will be encouraged.

Turbidity - Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
- Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
- Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

Water Quality Objectives from the Sacramento River and San Joaquin River Basin Plan

Floating Material - Water shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses.

Pesticides

- No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
- Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses.

- Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer.
- Pesticide concentrations shall not exceed those allowable by applicable antidegradation policies (see State Water Resources Control Board Resolution No. 68-16 and 40 C.F.R. Section 131.12.).
- Pesticide concentrations shall not exceed the lowest levels technically and economically achievable.
- Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of pesticides in excess of the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.

Where more than one objective may be applicable, the most stringent objective applies.

For the purposes of this objective, the term pesticide shall include: (1) any substance, or mixture of substances which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest, which may infest or be detrimental to vegetation, man, animals, or households, or be present in any agricultural or nonagricultural environment whatsoever, or (2) any spray adjuvant, or (3) any breakdown products of these materials that threaten beneficial uses. Note that discharges of "inert" ingredients included in pesticide formulations must comply with all applicable water quality objectives.

Temperature - The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

Temperature objectives for COLD interstate waters, WARM interstate waters, and Enclosed Bays and Estuaries are as specified in the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California* including any revisions. There are also temperature objectives for the Delta in the State Water Board's May 1991 *Water Quality Control Plan for Salinity*.

At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature.

Temperature changes due to controllable factors shall be limited for the water bodies specified as described in the table below. To the extent of any conflict with the above, the more stringent objective applies.

In determining compliance with the water quality objectives for temperature, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

SPECIFIC TEMPERATURE OBJECTIVES

DATES

APPLICABLE WATER BODY

From 1 December to 15 March, the maximum temperature shall be 55°F.

From 16 March to 15 April, the maximum temperature shall be 60°F.

From 16 April to 15 May, the maximum temperature shall be 65°F.

From 16 May to 15 October, the maximum temperature shall be 70°F.

From 16 October to 15 November, the maximum temperature shall be 65°F.

From 16 November to 30 November, the maximum temperature shall be 60°F.

Sacramento River from its source to Box Canyon Reservoir; Sacramento River from Box Canyon Dam to Shasta Lake

The temperature in the epilimnion shall be less than or equal to 75°F or mean daily ambient air temperature, whichever is greater.

Lake Siskiyou

The temperature shall not be elevated above 56°F in the reach from Keswick Dam to Hamilton City nor above 68°F in the reach from Hamilton City to the I Street Bridge during periods when temperature increases will be detrimental to the fishery.

Sacramento River from Shasta Dam to I Street Bridge

Turbidity - For Folsom Lake and American River (Folsom Dam to Sacramento River), except for periods of storm runoff, the turbidity shall be less than or equal 10 NTUs. To the extent of any conflict with the general turbidity objective, the more stringent applies.

Water Quality Objectives from the Tulare Lake Basin Plan

Floating Material - Waters shall not contain floating material, including but not limited to solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

Pesticides - Waters shall not contain pesticides in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses. (For the purposes of this objective, the term pesticide is defined as any substance or mixture of substances used to control objectionable insects, weeds, rodents, fungi,

or other forms of plant or animal life.) The Regional Water Board will consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for detrimental levels of chemical constituents developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the California Department of Health Services, the U.S. Food and Drug Administration, the National Academy of Sciences, the U.S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective.

At a minimum, waters designated MUN shall not contain concentrations of pesticide constituents in excess of the maximum contaminant levels (MCLs) specified in Table 64444-A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations, which is incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. To ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

In waters designated COLD, total identifiable chlorinated hydrocarbon pesticides shall not be present at concentrations detectable within the accuracy of analytical methods prescribed in Standard Methods for the Examination of Water and Wastewater, 18th Edition, or other equivalent methods approved by the Executive Officer.

Temperature - Natural temperatures of waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

Temperature objectives for COLD interstate waters, WARM interstate waters, and Enclosed Bays and Estuaries are as specified in the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California, including any revisions.

Elevated temperature wastes shall not cause the temperature of waters designated COLD or WARM to increase by more than 5°F above natural receiving water temperature.

In determining compliance with the above limits, the Regional Water Board may prescribe appropriate averaging periods provided that beneficial uses will be fully protected.

Other Relevant Plans and Policies:

State Board Resources Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*

Plan for California's Nonpoint Source Pollution Control Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

NOTICE OF INTENT

TO COMPLY WITH THE TERMS UNDER
CONDITIONAL WAIVER ORDER NO.

CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED LANDS

Check the box that applies:

- ☐ If filing for a Watershed Group check and proceed to 1. Watershed Group Information
- ☐ If filing for an Individual Discharger please check and proceed to 2. Individual Discharger Information.

1. WATERSHED GROUP INFORMATION¹

Watershed:				
Watershed Group Representative:				
Mailing Address:				
City/Locale:	County:	State:	Zip:	Telephone Number:

¹ The Watershed Group representative's information shall be included in the above information box. A Participant Document shall be included with this NOI. This document shall provide information for each individual Discharger as listed in Section 2 below, including; the owner and facility location(s), physical and mailing address, phone number, assessor parcel number(s), Section, Township and Range and closest surface water body. A facility includes lands where water is applied for the purpose of producing crops and includes commercial nurseries, nursery stock production and rice production.

2. INDIVIDUAL DISCHARGER INFORMATION

Discharger Name:				
Facility Name ² :				
Physical Address:				
City/Locale:	County:	State:	Zip:	
Mailing Address:				
City/Locale:	County:	State:	Zip:	Telephone Number:
Assessor's Parcel #:		Closest Surface Water:		
Township/Range/Section: T ____ R ____ S ____ B&M				

² Facilities include lands where water is applied for the purpose of producing crops and includes commercial nurseries, nursery stock production and rice production.

NOTICE OF INTENT
 CONDITIONAL WAIVER ORDER NO.
 CONDITIONAL WAIVER OF
 WASTE DISCHARGE REQUIREMENTS
 FOR DISCHARGES FROM IRRIGATED LANDS

- 2 -

3. TYPE OF DISCHARGE

<input type="checkbox"/> Watershed Group	<input type="checkbox"/> Organic Farms > 500 acres
<input type="checkbox"/> District Group	<input type="checkbox"/> Organic Farms ≤ 500 acres
<input type="checkbox"/> Multi-Farm Group	<input type="checkbox"/> Nurseries > 10 acres
<input type="checkbox"/> Districts which have operational spills	<input type="checkbox"/> Nurseries ≤ 10 acres
<input type="checkbox"/> Farms > 200 acres	<input type="checkbox"/> Farms that discharge only stormwater
<input type="checkbox"/> Farms ≤ 200 acres	<input type="checkbox"/> Other:

4. REASON FOR FILING

<input type="checkbox"/> New Discharge or Facility/Watershed Group	<input type="checkbox"/> Changes in Ownership/Operator or addition of Dischargers to Watershed Group
<input type="checkbox"/> Existing Facility/Watershed Group	<input type="checkbox"/> Expiration of Waiver Date of Waiver:
<input type="checkbox"/> Expansion	<input type="checkbox"/> Other:

5. FACILITY INFORMATION³:

Type and Volume of Crops Produced Each Year:	
Acreage of Irrigated Lands:	
Source Water Supply:	Estimated Water Usage: Average: _____ Maximum: _____
Estimated Rainfall: Average: _____ in. 100 yr/24 hr event: _____ in. Tailwater Control: <input type="checkbox"/> Yes <input type="checkbox"/> No Stormwater Runoff: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Other Information:	

³ For Watershed Groups, the above information for each Discharger shall be included on a separate sheet of paper and attached to the NOI.

- 3 -

Please attach the following information to this NOI:

- [illegible]

NOTICE OF INTENT
CONDITIONAL WAIVER ORDER NO.
CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 4 -

7. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: _____ Title: _____

Signature: _____ Date: _____

MMW
4/3/03

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

NOTICE OF TERMINATION

TO COMPLY WITH THE TERMS UNDER

CONDITIONAL WAIVER ORDER NO.

CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED LANDS

This document is only to be used for Dischargers that have been issued a Notice of Applicability by the Executive Officer. Submission of this Notice of Termination constitutes official notification that the facility identified below no longer wishes to be covered under the above Conditional Waiver Order.

Check the box that applies:

- ☐ If filing for a Watershed Group check and proceed to 1. Watershed Group Information
- ☐ If filing for an Individual Discharger please check and proceed to 2. Individual Discharger Information.

1. WATERSHED GROUP INFORMATION¹

Watershed:				
Watershed Group Representative:				
Mailing Address:				
City/Locale:	County:	State:	Zip:	Telephone Number:

¹ The Watershed Group representative's information shall be included in the above information box. . A Participant Document shall be included with this NOI. This document shall provide information for each individual Discharger as listed in Section 2 below, including; the owner and facility location(s), physical and mailing address, phone number, assessor parcel number(s), Section, Township and Range and closest surface water body. A facility includes lands where water is applied for the purpose of producing crops and includes commercial nurseries, nursery stock production and rice production.

2. INDIVIDUAL DISCHARGER INFORMATION

Discharger Name:				
Facility Name ² :				
Physical Address:				
City/Locale:	County:	State:	Zip:	
Mailing Address:				
City/Locale:	County:	State:	Zip:	Telephone Number:

NOTICE OF TERMINATION
CONDITIONAL WAIVER ORDER NO.
CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 2 -

² Facilities include lands where water is applied for the purpose of producing crops and includes commercial nurseries, nursery stock production and rice production.

3. LOCATION OF FACILITY

Assessor's Parcel #:	Closest Surface Water: (e.g. Sacramento River)
Township/Range/Section: T ____ R ____ S ____ B&M	

4. REASON FOR TERMINATION

<input type="checkbox"/> Closed facility	<input type="checkbox"/> Facility has been sold
<input type="checkbox"/> Facility no longer discharges subject to the Conditional Waiver	<input type="checkbox"/> Other

5. CERTIFICATION

<p>I certify under penalty of law that (1) I am not required to be covered under the Conditional Waiver of Waste Discharge Requirements For Discharges From Irrigated Lands Within The Central Valley Region, and (2) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I also understand that submittal of this Notice of Termination does not release a facility from liability for any violations of the Conditional Waiver.</p>	
Print Name: _____	Title: _____
Signature: _____	Date: _____

MMW: 4/3/03

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM
ORDER NO.
FOR
WATERSHED GROUPS
UNDER
CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED LANDS

As conditioned by the *Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Conditional Waiver) Order No. ____*, Watershed Groups shall develop a monitoring program to assess the sources and impacts of waste in discharges from irrigated lands, and where necessary, to track progress in reducing the amount of waste discharged that affect the quality of the waters of the state and its beneficial uses.

The purpose of this Monitoring and Reporting Program (MRP) is to describe the minimum requirements for an acceptable Watershed Group Monitoring and Reporting Program Plan (MRP Plan). The purpose of the MRP Plan shall be to monitor the discharge of constituents of concern (COCs) and/or waste in irrigation return flows and stormwater from irrigated lands that are enrolled under the Irrigated Lands Conditional Waiver (Conditional Waiver). The Watershed Group shall prepare and submit to the Regional Board for review and approval by the Executive Officer an MRP Plan that meets the minimum requirements of the MRP and includes sites to be monitored, frequency of monitoring, COCs to be monitored, and documentation of monitoring protocols. The Executive Officer will review the MRP Plan to determine if it meets or exceeds the minimum requirements of this Order.

The Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) adopts this MRP pursuant to Water Code Section 13267. The Watershed Groups represent individual dischargers that discharge waste to waters of the state. The reports required by this Order are required to evaluate impacts of discharges of waste to waters of the state and to determine compliance with the Conditional Waiver. The Regional Board Executive Officer may revise the MRP as appropriate. Watershed groups shall comply with the MRP as revised by the Executive Officer.

I. MONITORING AND REPORTING PROGRAM REQUIREMENTS

The Watershed Group shall submit to the Regional Board a detailed MRP Plan that supports the development and implementation and demonstrates the effectiveness of the program.

The MRP Plan shall be designed to achieve the following objectives:

- a. Assess the sources and impacts of waste discharges from irrigated lands to surface water;
- b. Evaluate compliance with existing narrative and numeric water quality objectives;
- c. Determine the degree of implementation of management practices to reduce discharge of specific COCs that impact water quality;
- d. Determine the effectiveness of management practices and strategies to reduce discharges of COCs that impact water quality; and
- e. Determine concentration and load of COCs in these discharges to surface waters.

The development of a science-based water quality monitoring program is critical for determining actual and potential impacts of discharges of waste from irrigated lands on beneficial uses of water in the Central Valley Region. Determining the existing ecological conditions of agricultural dominated waterbodies in the Central Valley Region is a critical goal of a water quality monitoring program and should be achieved by multiple assessment tools such as toxicity, chemical monitoring and bioassessments.¹

1. Types of Monitoring and Evaluation

To achieve the objectives of the MRP, at a minimum, the Watershed Group shall conduct the following types of monitoring and evaluation:

- a. Water Quality (constituents listed in Table 1) and Flow Monitoring;
- b. Toxicity Testing;
- c. Pesticide Use Evaluation; and
- d. Evaluation of the effectiveness of management practices and tracking levels of implementation in the watershed.

Water quality and toxicity testing must be conducted during the irrigation season (March through August) and storm season (December through February).

- **Water Quality and Flow Monitoring**

Such monitoring is used to assess the sources of COCs and loads in discharges from irrigated lands to surface waters, and to evaluate performance of management practice implementation efforts. Monitoring data shall be compared to existing numeric and narrative water quality objectives.

¹ Letter to Art Baggett and Thomas Pinkos from Don Gordon, Agricultural Council of California, August 5, 2002.

- Toxicity Testing

Activities within the watershed and the use of the receiving waters must be evaluated using aquatic toxicity testing. The purpose of the toxicity testing is to evaluate water quality, primarily through the use of aquatic species toxicity testing, to identify the causes (e.g., sediment, contaminants, salt, etc.) of any water quality impairment, and to determine the sources of contaminants based on the identified causes of impairments. Initial screening shall include conducting sediment and water column toxicity testing once per month during storm and irrigation seasons (December through August). Monitoring sites shall include upstream or background sites to identify sources within the watershed. Toxicity testing shall also be performed when the chemistry (Water Quality) analyses results exceed the LC50 to determine the cause of toxicity. These toxicity testing will also be used to determine if the management program is achieving the goals and objectives identified during planning, including whether the waterbody is maintaining the conditions that are protective of beneficial uses. When water column toxicity testing is conducted, the toxicity test procedures, quality control protocol and acceptance criteria should and at a minimum, meet the criteria listed in *Investigation of Water Quality of Central Valley Drains, Study Plan* by V. de Vlaming, T. Young and B. Osburn, University of California, Davis, 2003. This study plan is available on the Regional Board's website or from the Regional Board's offices.

For the sediment toxicity testing, test procedures and quality control criteria shall follow the criteria listed in *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Freshwater Invertebrates*, Second Edition, US EPA, 2000.

- Pesticide Use Evaluation

The most significant factors influencing the amount of pesticides in surface waters are the timing of pesticide applications, the application rates, the amounts of pesticide applied, and the points of application (all of these factors can be referred to as "use pattern"). This information can be found in the pesticide use reports submitted by the applicators to the County Agricultural Commissioners and Department of Pesticide Regulations (DPR). Changes in pesticide concentrations at specific monitoring sites in the waterbodies need to be compared to pesticide use patterns in land areas upstream of the monitoring sites. By comparing these changes, it can be determined how changing the pesticide use patterns impact water quality. Changing pesticide use patterns can also provide an indicator of the degree of implementation of certain management practices.

- **Management Practice Effectiveness and Implementation Tracking**

Information must be collected from Dischargers on the type of management practices that are being used, the degree to which they are being implemented within the watershed, and how effective they are in protecting waters of the state. Data should be collected in four broad areas; 1) pesticide application, pesticide mixing and loading practices; 2) pest management practices; 3) management practices to address COCs (salt, sediment, nitrogen, etc.), and 4) cultural practices. This information may be used to compare the effectiveness of management practices in reducing loading of constituents of concern.

2. **Historical Data**

To assist in developing the MRP Plan, the Watershed Group shall review the historical data to identify the following:

- The most current condition in the watershed by reviewing data collected by agencies (e.g., Regional Board, US Geological Survey, Department of Pesticide Regulation); and
- Areas where insufficient data are available or where detailed monitoring has not been conducted and actions are required to fully assess the sources.

3. **Minimum Requirements**

The following table lists the minimum requirements for the constituents to be monitored by the Watershed Group.

Table 1. Constituents to be monitored

Constituent	Quantitaion Limit	Reporting Unit	Sampling Frequency
Physical Parameters			
Flow	N/A	CFS (Ft ³ /Sec)	Storm/In season
pH	N/A	pH	Storm/In season
Electrical Conductivity	N/A	µmhos/cm	Storm/In season
Dissolved Oxygen	N/A	mg O ₂ /L	Storm/In season
Temperature	N/A	Degrees Celsius	Storm/In season
Color	N/A	ADMI	Storm/In season
Turbidity	N/A	NTUs	Storm/In season
Total Dissolve Solids	N/A	mg/L	Storm/In season
Total Organic Carbon	N/A	mg/L	Storm/In season
Pesticides			
Carbamates	a	ug/L	Storm/In season
Organochlorines	a	ug/L	Storm/In season
Organophosphorus	a	ug/L	Storm/In season
Pyrethroids	a	ug/L	Storm/In season

MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2003-
WATERSHED GROUPS UNDER CONDITIONAL
WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 5 -

Constituent	Quantitaion Limit	Reporting Unit	Sampling Frequency
Herbicides	a	ug/L	Storm/In season
Metals			
Cadmium		ug/L	Storm/In season
Copper		ug/L	Storm/In season
Lead		ug/L	Storm/In season
Nickel		ug/L	Storm/In season
Zinc		ug/L	Storm/In season
Nutrients		ug/L	Storm/In season
Total Kjeldahl Nitrogen		mg/L	Storm/ Inseason
Phosphorus		µg/L	Storm/Inseason
Potassium		µg/L	Storm/Inseason
Pathogens			Storm/Inseason
E Coli		MPN/100 mL	Storm/Inseason

a Only pesticides used and constituents of concern in the watershed should be analyzed. The required detection limits are listed in Table 2 - Most frequently used pesticides in the Central.

Monitoring should include an assessment of the conditions of the waterbodies and watershed. Monitoring should include chemical analyses; toxicity testing; and discharge measurements of streams, channels, and other waterbodies within the watershed. Bioassessments are recommended. Monitoring should focus narrowly on the fewest possible measurements or indicators that most efficiently demonstrate the overall condition of drainage and the success of the watershed effort relative to protecting beneficial uses. The COCs that should be monitored include chemicals that are added to agricultural lands (e.g., pesticides, herbicides) to enhance crop production, constituents that are formed as a result of agricultural land use practices such as total dissolved solids (TDS), total organic carbon (TOC), and other constituents that may be leached from the land. The MRP Plan must include a sufficient number of monitoring sites and surface water flow monitoring for each location to allow calculation of the load discharged for every COC monitored.

The monitoring will first focus on the COCs that exceed numeric water quality standards or Basin Plan narrative toxicity objectives. Method detection limits and practical quantitation limits shall be reported. All peaks detected on chromatograms shall be reported, including those, which cannot be, quantified and/or specifically identified. The Watershed Group shall use US EPA approved methods, provided the method can achieve method detection limits equal to or lower than analytical methods quantitation limits specified in this Order.

At a minimum, the MRP Plan must include (1) all COCs on the most recent complete Clean Water Act section 303 (d) list with agricultural sources for any downstream waterbody [303 (d) list is available at the following website: http://www.swrcb.ca.gov/tmdl/303d_lists.html.]; (2) sufficient monitoring sites based on acreages and watershed characteristics, flow monitoring, and frequency of sample

collection to allow for calculation of load discharged for every COC monitored; and (3) measurements of water quality parameters such as temperature, electrical conductivity, pH, and dissolved oxygen to identify other contaminants in the watershed. Proper sampling techniques must be used to ensure a sample is representative of the flow in the cross section.

Watershed Specific Requirements

The watershed-specific studies are needed to characterize the beneficial use impairments of the receiving water bodies due to agricultural runoff. For each group of pesticides listed in Table 1, the MRP Plan shall include all of the individual pesticides that are used in the watershed. **The MRP Plan does not need to include individual pesticides if they are not used within the watershed.** This information can be found in the pesticide use report submitted by the pesticide applicators to the County Agricultural Commissioners Office and DPR.

The most frequently used pesticides in the Central Valley are listed in Table 2 as a reference. Watershed Groups shall monitor all site-specific pesticides listed under each pesticide group in Table 1. All pesticides monitored must be reported at a quantitation limit at least less than ten times the LC 50 as listed in Table 2. The quantitation limits reported by the laboratory must be supported by the detection limit study as described in the Quality Assurance Project Plan (QAPP), **Attachment A**, which is attached hereto and made part of this Order by reference.

Table 2. Most frequently used pesticides and other constituents in the Central Valley

Constituent	Toxicity LC50	Quantitation Limits	Reporting Unit	Source of Data/ Ref #
Organophosphorus				
Acephate	>50000 ^a		ug/L	Eco Tox/15574
Azinphos-Methyl	64 ^a	6.4	ug/L	Eco Tox/2820
Chlorpyrifos	.053 ^c	.0053	ug/L	Eco Tox/15462
Diazinon	.41 ^c	.041	ug/L	Eco Tox/15462
Dimethoate	N/D	N/A	ug/L	N/A
Disulfoton	3700 ^a	370	ug/L	Eco Tox/936
Ethephon	130000 ^a		ug/L	Eco Tox/344
Malathion	1.14 ^b	.114	ug/L	Eco Tox/18961
Methamidophos	N/D	N/A	ug/L	N/A
Methidathion	N/D	N/A	ug/L	N/A
Methyl Parathion	2.6 ^b	.26	ug/L	Eco Tox/13467
Parathion	1410 ^c	141	ug/L	Eco Tox/605
Phosmet	7300 ^a	730	ug/L	Eco Tox/857
Phorate	250 ^a	25	ug/L	Eco Tox/8096
Pyrethroids				
Bifenthrin	.07 ^b	.007	ug/L	Eco Tox/85
Cyfluthrin	.14 ^b	.014	ug/L	Eco Tox/85

MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2003-
WATERSHED GROUPS UNDER CONDITIONAL
WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 7 -

Constituent	Toxicity LC50	Quantitation Limits	Reporting Unit	Source of Data/ Ref #
Cypermethrin	N/D	N/A	ug/L	N/A
Esfenvalerate	.32 ^a	.032	ug/L	Eco Tox/14914
Permethrin	.55 ^b	.055	ug/L	Eco Tox/85
Carbamates				
Aldicarb	861 ^a	86.1	ug/L	Eco Tox/3217
Captan	65 ^a	6.5	ug/L	Eco Tox/945
Carbaryl	11.6 ^a	1.16	ug/L	Eco Tox/936
Carbofuran	2.23 ^c	.223	ug/L	Eco Tox/3217
Methiocarb	N/D	N/A	ug/L	N/A
Methomyl	15000 ^a	1500	ug/L	Eco Tox/15574
Organochlorines				
DDT	8.5 ^a	.85	ug/L	Eco Tox/2100
Dicofol	510 ^a	51	ug/L	Eco Tox/10536
Herbicides				
Alachlor	7900 ^b	790	ug/L	Eco Tox/3590
Atrazine	>30000 ^b		ug/L	Eco Tox/3590
Cyanazine	16300 ^a		ug/L	Eco Tox/666
Diclofop	N/D	N/A	ug/L	N/A
Diuron	14200 ^a		ug/L	Eco Tox/12858
Ethalfuralin	N/D	N/A	ug/L	N/A
Glyphosate	97000 ^a		ug/L	Eco Tox/66
Linuron	N/D	N/A	ug/L	N/A
Metolachlor	N/D	N/A	ug/L	N/A
Molinate	>5000 ^b		ug/L	Eco Tox/13467
Norflurazon	N/D	N/A	ug/L	N/A
Oryzalin	N/D	N/A	ug/L	N/A
Oxyfluorfen	N/D	N/A	ug/L	N/A
Paraquat Dichloride	N/D	N/A	ug/L	N/A
Pendimethalin	N/D	N/A	ug/L	N/A
Simazine	6400 ^a	640	ug/L	Eco Tox/344
Thiobencarb	580 ^b	58	ug/L	Eco Tox/13467
Trifluralin	105	10.5	ug/L	Eco Tox/344
Metals				
Cadmium	N/D		ug/L	
Copper	302 ^c		ug/L	Eco Tox/8320
Lead	N/D		ug/L	
Nickel	N/D		ug/L	
Zinc	70 ^b		ug/L	Eco Tox/8661
Nutrients				
Nitrate	N/D	N/A	ug/L	
Nitrite	N/D	N/A	ug/L	
TKN	N/D	N/A	ug/L	
Ammonia	N/D	N/A	ug/L	
Phosphorus	N/D	N/A	ug/L	
Pathogens				
E Coli			MPN/100 mL	
Fungicide				
Others				

MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2003-
WATERSHED GROUPS UNDER CONDITIONAL
WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 8 -

Constituent	Toxicity LC50	Quantitation Limits	Reporting Unit	Source of Data/ Ref #
Borax	N/D	N/A	ug/L	
Imidacloprid	N/D	N/A	ug/L	
Methyl Bromide	N/D	N/A	ug/L	
Propargite	N/D	N/A	ug/L	
Propanil	1520 ^b	152	ug/L	Eco Tox/19808

Notes:

^a LC50 is for 96 hour Pimephale Promela

^b LC50 is for 48 Ceriodaphnia Dubia

^c LC50 is for 96 Ceriodaphnia Dubia

* This list is developed using the USGS National Water Quality Assessment data base and data obtained from the Pesticide use database on pesticides/herbicides that were applied at a rate of >3,000 lbs of active ingredient per county during 2000.

All sampling methods shall have documented protocols. The MRP Plan must include all field and laboratory procedures as stated in the Monitoring Program Requirements and Attachment.

4. Flow Monitoring

All collected samples shall be representative of the volume and nature of the discharge (tailwater, stormwater, etc.). The time, date, and location of each grab sample shall be recorded on the sample chain of custody form and field data sheets. Discharge flow monitoring shall be conducted and shall be reported in cubic feet per second (CFS).

5. Monitoring Seasons

Monitoring required in Section 1 “Monitoring Types” shall be conducted during the storm season, which coincides with the orchard dormant spray application (December through February) and irrigation season (March through August).

6. Monitoring Schedule

The MRP Plan shall be carried out using a systematic schedule. The MRP Plan should indicate the start date, identify time of the year, identify when field studies will take place, define the frequency of sampling, and indicate when the field studies end. Timing, duration, and frequency of sampling should be based on the complexity, hydrology, and size of the waterbody. Historical data must be reviewed to assist with determining some of these factors. The MRP Plan must include a sufficient number of monitoring sites and surface water flow monitoring for each location to allow calculation of the load discharged for every COC monitored.

At a minimum, the above referenced monitoring types shall be conducted during two storm events and after storm events, and monthly sampling during the peak

irrigation season in the watershed to determine the sources of waste discharges from irrigated lands. Toxicity testing shall be conducted once per month during storm and irrigation seasons (December through August). Toxicity testing shall also be performed when the chemistry (Water Quality) analyses results exceed the LC50 to determine the cause of toxicity.

7. Monitoring Sites

The MRP plan shall describe the study area, sampling sites, sampling locations, GPS coordinates, land use in the watershed, the chemicals being used and the existing management practices in the watershed. The numbers and locations of sites must be based on specific watershed characteristics and be supported by a detailed discussion of these characteristics. Monitoring sites shall include downstream tributary sites for compliance with the Basin Plan water quality objectives and upstream sites to identify the sources in the watershed. Monitoring sites shall not represent watershed areas greater than 5,000 acres unless otherwise justified by supporting documentation and approved by the Executive Officer. Sample sites should not include main-stem water bodies unless the water body is a Clean Water Act section 303(d) listed water body. The initial focus of the MRP Plan shall be on water bodies that carry agricultural drainage or are dominated by agricultural drainage. A map showing the monitoring sites shall be provided with the MRP Plan.

II. QUALITY ASSURANCE PROJECT PLAN (QAPP)

To create a sound and consistent watershed or regional MRP Plan, it is important to develop monitoring protocols and a monitoring plan for the evaluation of water quality data. A QAPP must be developed by the Watershed Group to include watershed and site-specific information, project organization and responsibilities, and quality assurance components of the monitoring program. **Attachment A** presents the QAPP Requirements and the outline for development of the monitoring QAPP. The QAPP includes the laboratory and field requirements to be used for data evaluation. The Watershed specific QAPP is required to be submitted with the Detailed Report. The Detailed Report is a condition of the Conditional Waiver.

III. REPORTING REQUIREMENTS

In reporting monitoring data, the Watershed Groups shall arrange the data in tabular form so that the required information is readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with the Conditional Waiver.

Pursuant to California Water Code (CWC) Section 13267, the following Reports are required to be submitted to the Regional Board by the time schedule identified below.

A. Watershed Group - Notice of Intent and General Report
DUE: 1 September 2003

The Watershed Group shall submit a Notice of Intent (NOI) and a General Report to the Regional Board. The NOI shall contain all of the information necessary to comply with the terms and conditions of the Irrigated Lands Conditional Waiver Order No. . The NOI and General Report shall identify the lead agencies and/or organizations that will develop a watershed or subwatershed program, the key contact(s), a description of the watershed, and a commitment to work with the Regional Board to satisfy the conditions of this waiver. The Watershed Group – General Report shall also provide a map of the area included within the Watershed Group. The General Report and the map shall identify participating landowners and operators, Districts, etc. (Dischargers) which discharge or threaten to discharge wastewater and/or stormwater from irrigated lands to surface waters and are to be regulated under the terms and conditions of the Irrigated Lands Conditional Waiver.

The General Report shall identify the funding mechanisms that will support the Watershed Group administrative costs, water quality monitoring, management practice evaluation and development, and other costs necessary to ensure compliance with the Conditional Waiver.

B. Watershed Group, Detailed Report
DUE: 1 March 2004

The Watershed group shall compile a detailed report containing the following information:

1. Watershed Setting

- Map(s) of watershed area showing irrigated lands (including crop type), drainage and discharge locations. Maps or discussion shall provide details of watershed showing which fields are served by each drain.
- Information on crops grown in the watershed or subwatershed area, production practices, chemicals used and application methods (including timing of application) within the watershed used and other factors that may impact the quality of discharges.
- Inventory of management practices that are in place and which practices are effective pollution control measures.

- Historical water quality monitoring results – Documentation of existing receiving water quality data and quality of typical irrigation discharges.
- Known water quality issues, water quality limited waterbodies, potential water quality problems.
- Known programs addressing the water quality issues associated with discharges from irrigated lands. Discussion of practices in use and available programs to address problems from irrigated agricultural discharges (e.g. tailwater return systems, irrigation efficiency improvements, UC Coop Ext. and NRCS grower outreach, EQIP, etc.).

2. Watershed Priorities

Based on the information available, the watershed group shall identify its priorities with respect to work on specific subwatersheds and COCs.

3. Management Practices

The Watershed Group shall be responsible for monitoring the success of identified management practices through the MRP Plan as well as the evaluation of the management practices. The Detailed Report shall provide an implementation plan for management practices in the watershed. The Detailed Report shall also identify pilot projects for the implementation of management practices on prioritized sub-watersheds.

3.1 Implementation Plan

The watershed group shall develop an implementation plan to identify and track the progress of water quality management practices within the Watershed. This plan may address water quality issues related to the discharge of irrigation return flows separately from stormwater discharges and shall include a schedule for implementation of management practices that may include, but is not limited to, grower education, technical and financial assistance.

3.2 Corrective Action Report

When monitoring results indicate that water quality objectives are exceeded in the surface waters of the Watershed Group area, the Watershed Group shall submit a Corrective Action Report (CAR) describing how it will evaluate the effectiveness of one or more management practice(s) at preventing discharges of COCs to surface waters. The selection of management practice evaluation projects shall include consideration of the contribution of target COCs to known water quality impairments, potential application of

the management practices over a broad geographic area and large spectrum of crops, and ease and immediacy of possible implementation. Projects need not involve new practices, but can involve quantification of benefits of existing practices. CARs shall be submitted for each proposed, implemented, or completed project and shall include, at a minimum: description of management practice(s) being evaluated, target chemical(s), reasons for selecting the specific project, methodology for evaluating the effectiveness of the practice (including sampling and QA/QC plans), and involvement by stakeholders and agencies in developing, implementing and evaluating the project. If projects are completed, the CAR shall present the conclusion(s) of the evaluation project. A CAR may be submitted to the Regional Board at any time or upon order by the Executive Officer.

C. Monitoring and Reporting Program Plan
Due: 1 March 2004

The MRP Plan must include the components of the monitoring program as stated in this Order. The MRP Plan shall specify all quality assurance elements including the US EPA test method and detection limits for the required constituents as specified in the QAPP for Monitoring Program Requirements, **Attachment A**. At a minimum, the MRP Plan shall include the following elements:

1. Description of the Watershed including characteristics relevant to the monitoring;
2. Summary of the historical data;
3. Monitoring sites;
4. Land Use description;
5. Sampling locations;
6. GIS showing the land use and sampling locations;
7. Monitoring periods including monitoring events and frequencies of monitoring during each event;
8. Monitoring parameters/COCs;
9. COCs to be monitored including minimum and site specific requirements as described here;
10. A QAPP consistent with the requirements described in **Attachment A**;
11. Documentation of monitoring protocols including sample collection methods and laboratory quality assurance manual;

12. Laboratory Quality Assurance manual must describe analytical methods; internal quality control (QC) samples, frequency of QC sample analyses and acceptance criteria; calibration procedures and acceptance criteria; instrumentations and, other technical capabilities of the laboratory; and
13. Watershed contact information.

D Annual Monitoring Report
Due: Annual, 1 March

The Annual Monitoring Report (AMR) shall be prepared after field monitoring events have been completed and includes a review of the monitoring program including the results of the data collected and data evaluation. The AMR shall include the following components:

1. A title page;
2. Table of contents;
3. Description of the watershed;
4. Monitoring objectives;
5. Sampling site descriptions;
6. Sampling sites and land use map (GIS);
7. Copy of chain of custodies;
8. Sampling and analytical methods used;
9. Tabulated results of analyses;
10. Associated laboratory and field quality control samples results;
11. Summary of precision and accuracy;
12. Management practices used in the watershed;
13. Pesticide Use Report;
14. Data interpretation including assessment of data quality objectives;
15. Corrective Action Reports; and
16. Conclusions and recommendations.

Copies of all field documentation and laboratory original data must be included in the annual monitoring report as attachments. The AMR should also provide a perspective of the field conditions including a description of the weather, rainfall, temperature, stream flow, color of the water, odor, and other relevant information that can help in data interpretation.

A transmittal letter shall accompany each report. This letter shall include a discussion of any violations of the Conditional Waiver found during the reporting period, and actions taken or planned for correcting noted violations, such as operational, field or facility modifications. If the Watershed Group has previously submitted a CAR describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence

MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2003-
WATERSHED GROUPS UNDER CONDITIONAL
WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 14 -

will be satisfactory. The transmittal letter shall be signed and contain a penalty of perjury statement by the Watershed Group, or the Watershed Group's authorized agent. This statement shall state:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

(Date)

Attachment A – Conditional Waiver Of Waste Discharge Requirements For Discharges From Irrigated Lands Conditional Waiver No. R5-2003- , Watershed Monitoring And Reporting Program, Quality Assurance Project Plan

CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED LANDS
CONDITIONAL WAIVER NO.

QUALITY ASSURANCE PROJECT PLAN

WATERSHED MONITORING AND REPORTING PROGRAM

1.0 INTRODUCTION

A Quality Assurance Project Plan (QAPP) shall be developed by the Watershed Group and shall include site-specific information and field and laboratory quality assurance requirements. This document identifies the major elements of the quality assurance and quality control components that need to be described in the QAPP. The QAPP shall be submitted to the Regional Board for review and approval.

2.0 OBJECTIVE

The objective of this document is to identify the quality assurance components that should be included in the QAPP for the watershed monitoring. A QAPP contains the requirements and criteria for the field and laboratory procedures used during planning and implementation of the monitoring program. These requirements and criteria shall be presented as a set of procedures to assure that the data collected during a monitoring program represents, as closely as possible, *in situ* conditions of the watersheds. This objective will be achieved by using accepted methodology (e.g., U.S. EPA) to collect and analyze water, sediment, and biota samples. The program's ability to meet this objective will be assessed by evaluating the laboratory results in terms of detection limits, precision, accuracy, comparability, representativeness, and completeness. This document provides a description of major elements of the field and laboratory quality assurance components.

3.0 WHAT SHOULD BE INCLUDED IN THE QAPP

A monitoring QAPP should include Project Management information e.g., project organization and responsibilities, project schedule, and the quality assurance components of the field and laboratory activities. The elements described in this document will provide the framework for developing a QAPP. These elements describe the field and laboratory elements of a QAPP and the requirements that are set forth by the Regional Board. QAPP for the watershed monitoring must include all the required components as listed in Table No. 1.

ATTACHMENT A
CONDITIONAL WAIVER NO.
WATERSHED MONITORING AND
REPORTING PROGRAM
QUALITY ASSURANCE PROJECT PLAN

- 2 -

Table No.1. Components of Monitoring Quality Assurance Project Plan

SECTION NUMBER	SECTION NAME	SECTION DESCRIPTION
1.0	PROJECT MANAGEMENT	This section explains the overall project management.
1.1	TITLE PAGE AND APPROVAL	Description of Project Title, organizations, and responsible staff.
1.2	TABLE OF CONTENTS	Table of Contents list the sections and sub-sections included in the QAPP.
1.3	CONTRACT INFORMATION	List the contact staff, organization, and phone numbers.
1.4	PROJECT ORGANIZATION AND RESPONSIBILITY	Identify the project organization and the responsible entities who will ensure the QAPP procedures will be followed.
1.5	PROJECT OBJECTIVES AND APPROACH	Describe the objective based on the goal defined in the Conditional Waiver. Describe the approaches to meet the objectives.
1.5.1	<i>Measurement</i>	Describe the constituents that will be monitored.
1.5.2	<i>Project Schedule</i>	Identify when field studies will take place, the frequency of sampling, and when the field studies end.
1.6	QUALITY OBJECTIVES AND CRITERIA FOR DATA MEASUREMENT	Describe the quality objectives and criteria for data measurement. Refer to Quality Control Requirements listed in this document.
1.7	TRAINING AND CERTIFICATION	Describe the procedures for training field and laboratory staff.
1.8	DOCUMENTATION AND RECORDS	Describe the documentation procedure and record keeping for the monitoring program.
1.8.1	<i>Data to be Included in Reports</i>	List the laboratory and field data that will be included in the report.
1.8.2	<i>Reporting Format</i>	Explain what type of data will be included in the final report. Describe how the data that didn't meet the quality objectives will be qualified (e.g., estimated, usable, unusable).
2.0	DATA ACQUISITION	This section describes the sampling design and sample collection criteria
2.1	SAMPLING DESIGN	Describe the sampling design.
2.2	RATIONALE FOR THE DESIGN	Describe the purpose of the study. State if the design is based on a statistical or judgmental data collection method.
2.2.1	<i>Procedure for locating and Selecting Environmental Samples</i>	Describe procedures for locating and selecting the monitoring site/location(s).
2.2.2	<i>Classification of Measurements as Critical</i>	All measurements shall be classified as critical. Describe the process that will ensure that data will undergo closer scrutiny during data review.
2.2.3	<i>Validation of any Nonstandard methods</i>	List the non-standard methods that will be used and describe the procedures to validate the method.
3.0	FIELD PROCEDURES	Describe the field procedures for the elements listed below. Refer to the Field Procedures (Section 3.0) to meet the requirements for this monitoring program.
3.1	SAMPLE COLLECTION METHODS	See Section 3.0 for criteria. Describe the project specific methods.
3.1.1	<i>Sample Storage, Preservation and Holding Times</i>	See Section 3.0 for criteria. Describe the project specific procedures.
3.1.2	<i>Sample Identification Scheme</i>	See Section 3.0 for criteria. Describe the project specific procedures.
3.1.3	<i>Field Measurements</i>	See Section 3.0 for criteria. Describe the project specific methods of field measurement.
3.1.4	<i>QC Sample Collection</i>	See Section 3.0 for criteria. Describe the project specific quality control samples.
3.1.5	<i>Field Instrument Calibration</i>	See Section 3.0 for criteria. Describe the project specific methods of calibration.
3.1.6	<i>Decontamination Procedures</i>	See Section 3.0 for criteria. Describe the project specific documentation procedure.
3.1.7	<i>Field Documentation</i>	See Section 3.0 for criteria. Describe the project specific field documentation procedure.
3.2	SAMPLE CUSTODY AND DOCUMENTATION	This section describes the sample custody and documentation procedures.
3.2.1	<i>Documentation Procedures</i>	Describe the field documentation procedures.
3.2.2	<i>Chain-of-Custody Procedures and Form</i>	See Section 3.0 for criteria. Describe the Chain of Custody procedures.
3.2.3	<i>Sample Shipments and Handling</i>	See Section 3.0 for criteria. Describe the sample shipment procedure. How the samples will be delivered from the field to the laboratory.
3.2.4	<i>Laboratory Custody Procedures</i>	See Section 3.0 for criteria. Describe the project laboratory custody procedures.
4.0	ANALYTICAL METHOD REQUIREMENTS	This section describes the analytical method requirements.
4.1	CHEMISTRY ANALYSIS	Describe the chemistry analyses procedure, reference the published method, and identify the quantitation procedures.
4.2	TOXICITY TESTING	Describe the toxicity testing method and procedure, species, and reference the published methods being followed.
4.3	DETECTION AND QUANTITATION LIMITS	Describe the detection and quantitation limits for all constituents. See

ATTACHMENT A
CONDITIONAL WAIVER NO.
WATERSHED MONITORING AND
REPORTING PROGRAM
QUALITY ASSURANCE PROJECT PLAN

- 3 -

SECTION NUMBER	SECTION NAME	SECTION DESCRIPTION
		Section 4.0 for requirements.
4.4	LABORATORY STANDARD AND REAGENTS	Describe the reagents used in the laboratory and how they are checked for the quality.
4.5	SAMPLE PREPARATION PROCEDURES	Describe the sample preparation procedure and the reference method for each analytical method used and every constituent being monitored
5.0	QUALITY CONTROL REQUIREMENTS	This section describes the laboratory and field quality control. Laboratory and field sampling SOP should be provided to include the detail information.
5.1	DATA QUALITY OBJECTIVES AND QUALITY ASSURANCE OBJECTIVES	Describe the precision, accuracy, comparability, and completeness criteria for this project. See Section 5.0 for required information.
5.2	DEVELOPMENT OF PRECISION AND ACCURACY	Provide information on how the precision and accuracy will be developed for this project. See Section 5.0 for required information.
5.3	INTERNAL QUALITY CONTROL SAMPLES	Describe and list the internal QC samples, the frequency and acceptance criteria.
5.4	FIELD QUALITY CONTROL SAMPLES	Describe and list the type of field QC samples, the frequency of collection, and the acceptance criteria.
5.5	LABORATORY QUALITY CONTROL SAMPLES	Describe the laboratory QC samples and the frequency of analyses.
6.0	INSTRUMENTATION AND EQUIPMENT PREVENTATIVE MAINTENANCE	This section describes the instrumentation and preventive maintenance.
6.1	SAMPLE EQUIPMENT CLEANING PROCEDURES	Describe the sampling equipment cleaning procedures.
6.2	ANALYTICAL INSTRUMENT AND EQUIPMENT TESTING PROCEDURES AND CORRECTIVE ACTIONS	List the analytical instrument, manufacturer, maintenance procedure, and corrective actions when instruments are not operating within the required operating limits.
6.3	INSTRUMENT CALIBRATION AND FREQUENCY	This section describes the instrument calibration procedures and frequency of calibration
6.3.1	<i>Analytical Procedures and Calibration</i>	Describe the calibration procedure and frequency for each analytical method used in this monitoring program. Refer to Section 6.0 to follow the required procedure.
7.0	DATA MANAGEMENT	Describe the data management procedure. Where the original data will be kept, who receive the copy of the data, and who is responsible for maintaining the database.
7.1	DATA ASSESSMENT PROCEDURES	How the data will be assessed and what tools will be used to assess the data.
7.1.1	<i>Training and Certification</i>	Describe the training requirements for the field and laboratory staff.
7.1.2	<i>Data to be included in the Report</i>	Specify the data that will be included in the monitoring report. See Section 7.0 for requirements
8.0	DATA VALIDATION AND USABILITY	This section describes the data validation and usability.
8.1	LABORATORY DATA REVIEW, VERIFICATION AND REPORTING	Describe the laboratory procedure for data review and validation prior to release of the data.
8.2	DATA SYSTEM AUDITS	Describe any audit that the system may undergo during the monitoring.
8.2.1	<i>Technical System Audit</i>	Describe the frequency and procedure for the technical system audit.
8.2.2	<i>Performance Evaluations Audit</i>	Describe the procedure for performing a PE sample.
8.2.3	<i>Field Technical Audits</i>	Identify the entity who will be conducting the field technical audit and describe the procedure for conducting the audit.
9.0	REFERENCES	List all the references used to prepare the QAPP.
	ATTACHMENTS	List and enclose the attachments required. (e.g., Laboratory Quality Assurance Manual and SOPs).

In order to provide some technical information in preparing the QAPP, Sections 3.0 through 8.2.3 of the QAPP listed in Table No.1 are discussed in more detail below.

These sections focus primarily on the quality assurance and quality control components of the field and laboratory procedures. The section numbers provided below correspond to the Table No. 1 section numbers and section titles for ease of use.

SECTION 3.0 FIELD PROCEDURES

Surface water and sediment samples will be collected for chemical analyses and biological toxicity testing. While the primary focus will be the collection of samples for pesticide analyses, other constituents will be required as listed in the *Watershed Monitoring and Reporting Program*.

Section 3.1 Sample Collection Methods

Proper sampling techniques must be used to ensure that a sample is representative of the flow in the cross section. Samples should be collected using a standard multi-vertical depth integrating method to obtain the most representative isokinetic sample possible. By using this method the water entering the sampler is hydrodynamically equivalent to the portion of the stream being sampled. Abbreviated sampling methods (i.e., weighted-bottle or dip sample) can also be used for collecting a representative sample of the stream chemistry.

Section 3.1.1 Sample Storage, Preservation and Holding Times

Sample containers must be pre-cleaned and certified to be free of contamination according to the United States Environmental Protection Agency (U.S. EPA) specification for the appropriate methods.

Section 3.1.2 Sample Identification Scheme

All samples must be identified with a unique number to ensure that results are properly reported and interpreted. Samples must be identified such that the site, sampling location, matrix, sampling equipment and sample type (i.e., normal field sample or QC sample) can be distinguished by a data reviewer or user.

Section 3.1.3 Field Measurements

For all water bodies sampled, water quality parameters including pH, specific conductance, dissolved oxygen, and temperature must be measured prior to collecting samples for laboratory analyses.

Section 3.1.4 QC Sample Collection

Equipment blanks, field duplicates, and matrix spikes must be collected at a frequency of about 1 per 20 normal samples. Matrix spikes will be collected as, normal samples and will be spiked at the laboratory prior to sample preparation.

Section 3.1.5 Field Instrument Calibration

Routine field instrument calibration must be performed at least once per day prior to instrument use to ensure instruments are operating properly and producing accurate and reliable data. Calibration should be performed at a frequency recommended by the manufacturer.

Section 3.1.6 Decontamination Procedures

All field and sampling equipment that will contact samples must be decontaminated after each use in a designated area.

Section 3.1.7 Field Documentation

All field activities must be adequately and consistently documented to ensure defensibility of any data used for decision-making and to support data interpretation. Pertinent field information, including (as applicable), the width, depth, flow rate of the stream, the surface water condition, and location of the tributaries must be recorded on the field sheets.

Section 3.2 Sample Custody and Documentation

Sample custody must be traceable from the time of sample collection until results are reported. Sample custody procedures provide a mechanism for documenting information related to sample collection and handling.

Section 3.2.1 Documentation Procedures

A field activity coordinator must be responsible for ensuring that the field sampling team adheres to proper custody and documentation procedures. A master sample logbook or field datasheets shall be maintained for all samples collected during each sampling event.

Section 3.2.2 Chain-of-Custody Form

A chain-of-custody (COC) form must be completed after sample collection and prior to sample shipment or release. The COC form, sample labels, and field documentation must be crossed checked to verify sample identification, type of analyses, number of containers, sample volume, preservatives and type of containers.

Section 3.2.3 Sample Shipments and Handling

All sample shipments are accompanied with the COC form, which identifies the contents. The original COC form accompanies the shipment and a copy is retained in the project file.

All shipping containers must be secured with COC seals for transportation to the laboratory. The samples must be placed with ice to maintain the temperature between 2-4 degrees C. The ice packed with samples must be sealed in zip lock bags and contact each sample and be approximately 2 inches deep at the top and bottom of the cooler. Samples must be shipped to the contract laboratories according to Department of Transportation standard.

Section 3.2.4 Laboratory Custody Procedures

The following sample control activities must be conducted at the laboratory:

- Initial sample login and verification of samples received with the COC form;
- Document any discrepancies noted during login on the COC;
- Initiate internal laboratory custody procedure;
- Verify sample preservation (e.g., temperature);
- Notify the project coordinator if any problems or discrepancies are identified; and
- Proper samples storage, including daily refrigerator temperature monitoring and sample security.

SECTION 4.0 ANALYTICAL REQUIREMENTS

Section 4.1 Chemistry Analyses

Water quality samples will be analyzed on unfiltered (whole) fractions of the samples. Prior to the analysis of any environmental samples for pesticides, the laboratory must have demonstrated the ability to meet the minimum performance requirements for each analytical method. Initial demonstration of laboratory capabilities includes the ability to meet the project specified quantitation limits (QL), the ability to generate acceptable precision and recoveries, and other analytical and quality control parameters as stated in this Guide. Analytical methods used for chemistry analyses must follow a published method and document the procedure for sample analyses in a laboratory standard operation procedure (SOP) for review and approval.

Section 4.2 Toxicity Testing

The ambient water toxicity test results must provide a reliable qualitative prediction of impacts to in stream biota. At a minimum the toxicity testing will need to include the 4-day static renewal procedures described in Method for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (US EPA, 1993).

Section 4.3 Detection and Quantitation Limits

Method Detection Limit Studies

Each laboratory performing analyses under this program must routinely conduct method detection limit (MDL) studies to document that the MDLs are less than the project-specified QLs. If any analytes have MDLs that do not meet the project QLs, the following steps must be taken:

1. Perform a new MDL study using concentrations sufficient to prove analyte quantitation at concentrations less than the project-specified QLs per the procedure for the Determination of the Method Detection Limit presented in Revision 1.1," 40 Code of Federal Regulations (CFR) 136, 1984.
2. No samples may be analyzed until the issue has been resolved. MDL study results must be available for review during audits, data review, or as requested. Current MDL study results must be reported at the beginning of every project for review and inclusion in project files.

An MDL is developed from seven aliquots of a standard containing all analytes of interest spiked at five times the expected MDL, which are taken through the analytical method sample processing steps. The data are then evaluated and used to calculate the MDL. If the calculated MDL is less than three times below the spiked concentration, another MDL study must be performed using a lower concentration

Project Quantitation Limits

Laboratories generally establish QLs that are reported with the analytical results; these may be called reporting limits, detection limits, reporting detection limits, or other terms. These laboratory limits must be less than or equal to the project QLs. Project QLs must be lower than the proposed or existing numeric water quality objectives by the Regional Board. The laboratories must have documentation to support quantitation at the required levels.

Laboratories must report analytical results between the MDL and QL. These results must be reported as numerical values and qualified as estimates. Reporting as “trace” or “<QL” is not acceptable.

Sample results less than MDLs will be reported only for GC/MS analyses if the mass spectral fingerprint can prove positive identification; these results must be qualified as estimated values by the laboratory.

Section 4.4 Laboratory Standards and Reagents

All stock standards and reagents used for extraction and standard solutions must be tracked through the laboratory. The preparation and use of all working standards must be recorded in bound laboratory notebooks that document standard tractability to U.S. EPA, A2LA or National Institute for Standards and Technology (NIST) criteria. Records must have sufficient detail to allow determination of the identity, concentration, and viability of the standards including any dilutions performed to obtain the working standard. Date of preparation, analyte or mixture, concentration, name of preparer, lot or cylinder number, and expiration date, if applicable, must be recorded on each working standard.

Section 4.5 Sample Preparation Methods

Surface water and sediments samples will be prepared in solvent or via other extraction techniques prior to sample analyses. All procedures must follow a published method. The sample preparation procedure must be documented and included in the monitoring plan for review and approval.

SECTION 5.0 QUALITY CONTROL REQUIREMENTS

The types of quality control assessments required in the monitoring program are discussed below. Detailed procedures for preparation and analysis of quality control samples must be provided in the analytical method documents or Standard Operating Procedures (SOP) by the analytical laboratories for approval.

Section 5.1 Quality Assurance Objectives (QAOs)

Quality assurance objectives are the detailed QC specifications for precision, accuracy, representativeness, comparability, and completeness (PARC). The QAOs are then used as comparison criteria during data quality review by the group that is responsible for collecting data to determine if the minimum requirements have been met and the data may be used as planned.

Section 5.2 Development of Precision and Accuracy Objectives

Laboratory control spikes (LCSs) are used to determine the precision and accuracy objectives. The laboratory fortifies the LCSs with target compounds to monitor the laboratory precision and accuracy. Field duplicates measure sampling precision and variability for comparison of project data. Acceptable relative percent difference (RPD) is less than 25 for field duplicate analyses. If field duplicate sample results vary beyond these objectives, the results are qualified.

Section 5.3 Internal Quality Control (QC)

Internal quality control (QC) is achieved by collecting and/or analyzing a series of duplicate, blank, spike, and spike duplicate samples to ensure that analytical results are within the specified QC objectives. The QC sample results are used to quantify precision and accuracy and identify any problem or limitation in the associated sample results. The internal QC components of a sampling and analyses program will ensure that the data of known quality are produced and documented. The internal QC samples, frequency, acceptance criteria, and corrective action must meet the minimum requirements presented in the following sections.

Section 5.4 Field Quality Control

Field QC samples are used to assess the influence of sampling procedures and equipment used in sampling. They are also used to characterize matrix heterogeneity.

For basic water quality analyses, quality control samples to be prepared in the field will consist of equipment blanks, field duplicates, and matrix spikes (when applicable). The number of field duplicates and field blanks are set to achieve an overall rate of at least 5% of all analyses for a particular parameter. The external QA samples are rotated among sites and events to achieve the overall rate of 5% field duplicate samples and 5% equipment blanks (as appropriate for specific analyses).

Equipment Blanks

Equipment blanks will be collected and analyzed for all analytes of interest along with the associated environmental samples. Equipment blanks will consist of laboratory-prepared blank water (certified contaminate free) processed through the sampling equipment using the same procedures used for environmental samples.

Field Duplicates

Field duplicates will be collected at the rate of one per sampling event, and analyzed along with the associated environmental samples. Field duplicates will be collected at the same time as environmental samples or of two grab samples collected in rapid succession. If the relative percent difference (RPD) of field duplicate results is greater than 25% and the absolute difference is greater than the RL, both samples should be reanalyzed.

Matrix Spikes and Matrix Spike Duplicates

Matrix spikes and matrix spike duplicates will be analyzed at the rate of one pair per sample batch. Matrix spike samples are collected at the same time as the environmental samples and are spiked at the laboratory. Laboratory acceptance criteria should be submitted to the Regional Board staff for review and approval as part of the development and approval of the Scope of Work for monitoring.

Section 5.5 Laboratory Quality Control

For basic water quality analyses, quality control samples prepared in the contract laboratory will typically consist of method blanks, laboratory control samples, laboratory duplicates, and surrogate added to each sample (organic analysis).

Method Blanks

Method blanks will be prepared and analyzed by the contract laboratory with each batch of samples. If any analyte is detected in the blank, the blank and the associated samples must be re-extracted and re-analyzed.

Laboratory Control Samples and Surrogate

Laboratory control samples (LCS) will be analyzed at the rate of one per sample batch. Surrogate may be added to samples for organic analyses. Laboratory acceptance criteria must be submitted to Regional Board staff for review and approval as part of the development and approval of the monitoring plan.

SECTION 6.0 INSTRUMENTATION AND EQUIPMENT PREVENTIVE MAINTENANCE

Section 6.1 Sample Equipment Cleaning Procedures

Equipment used for sample collection must be cleaned according to the specific procedures documented in each sampling SOP. Sampling SOP will be prepared by the group responsible for sampling and will be submitted to Regional Board for review and approval as part of the monitoring plan.

Section 6.2 Analytical Instrument and Equipment Testing Procedures and Corrective Actions

Testing, inspection, maintenance of analytical equipment used by the contract laboratory, and corrective actions shall be documented in the quality assurance manuals for each analyzing laboratory. Laboratory Quality Assurance Manual must be submitted to Regional Board for review and approval prior to start of sampling and analyses.

Section 6.3 Instrument Calibrations and Frequency

Section 6.3.1 Analytical Procedures and Calibration

This section briefly describes analytical methods and calibration procedures for samples that will be collected under this monitoring program.

Analytical methods that will be used in this program will need to follow the general guidance of any of the following methods:

- *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA-600/4-85/054)
- *U.S. EPA Methods for Chemical Analysis of Water and Wastes* (EPA-600/4-79-020, third edition, 1983)
- *Methods for Determination of Organic Compounds in Drinking Water* (EPA-600/4-88/039)
- *Standard Methods for the Examination of Water and Wastewater*
- *Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (US EPA, 1993)

For this program, only linear calibration with either an average response factor or a linear regression is acceptable for organic analyses. Non-linear calibration is not allowed since using this calibration option creates a potential for poor quantitation or biased concentrations of compounds at low or high concentrations (near the high and low ends of the calibration range).

Laboratories shall prepare an initial 5-point calibration curve, where the low level standard concentrations is less than or equal to the analyte quantitation limits

SECTION 7.0 DATA MANAGEMENT

Copies of field logs, a copy of COC forms, original preliminary and final lab reports, and electronic media reports must be kept for review by the Regional Board Staff. The field crew must retain original field logs. The contract laboratory shall retain original COC forms. The contract laboratory will retain copies of the preliminary and final data reports.

Concentrations of chemicals and toxicity endpoints, and all numerical biological parameters shall be calculated as described in the referenced method document for each analyte or parameter, or laboratory operating procedures. The data generated shall be converted to a standard database format maintained by the responsible party and available for the Regional Board staff review. After data entry or data

transfer procedures are completed for each sample event, data should be inspected for data transcription errors, and corrected as appropriate. After the final QA checks for errors are completed, the data should be added to the final database.

Section 7.1 Data Assessment Procedures

Data must be consistently assessed and documented to determine whether project quality assurance objectives (QAOs) have been met, quantitatively assess data quality and identify potential limitations on data use. Assessment and compliance with quality control procedures will be undertaken during data collection phase of the project.

Section 7.1.1 Training and Certification

All staff performing field or laboratory procedures shall receive training to ensure that the work is conducted correctly and safely. At a minimum, all staff shall be familiar with the field guidelines and procedures and the laboratory SOP included in the project QAPP. All work shall be performed under the supervision of experienced staff, field managers, laboratory managers or other qualified individuals. A copy of the staffs' training records must be maintained in each specific project file.

Section 7.1.2 Data to be Included in Data Reports

For each sampling event, the field team or monitoring agency shall provide the Project Lead Staff with copies of the field data sheets (relevant pages of field logs) and copies of the COC forms for all samples submitted for analysis. At minimum, the following sample-specific information must be provided for each sampling program to the Regional Board staff:

- Sample Identification
- Monitoring location
- Sample type, e.g. grab or composite type (Cross-sectional, flow-proportional, etc.)
- QC sample type and frequency
- Date and time(s) of sample collection
- Requested analyses (specific parameters or method references)
- Results of samples collected and all laboratory QC samples (calibrations, blanks, surrogates, laboratory spikes, matrix spikes, reference materials, etc.) and the identification of each analytical sample batch.

Section 7.1.3 Reporting Format

All results meeting data quality objectives and results having satisfactory explanations for deviations from objectives shall be reported on the Laboratory Final Report. The final results shall include the results of all field and laboratory quality control samples.

SECTION 8.0 DATA VALIDATION AND USABILITY

Section 8.1 Laboratory Data Review, Verification, and Reporting

The laboratory quality assurance manual must be used to accept, reject or qualify the data generated by the laboratory. The laboratory management will be responsible for validating the data generated by the laboratory.

The laboratory personnel must verify that the measurement process was “in control” (i.e., all specified data quality objectives were met or acceptable deviations explained) for each batch of samples before proceeding with analysis of a subsequent batch. In addition, each laboratory will establish a system for detecting and reducing transcription and/or calculation errors prior to reporting data.

Only data, which have met data quality objectives, or data, which have acceptable deviations explained will be submitted by the laboratory. When QA requirements have not been met, the samples will be reanalyzed when possible and only the results of the reanalysis will be submitted, provided they are acceptable.

Section 8.2 Data System Audits

The Regional Board staff may audit laboratories during conducting sample analyses for this program.

Section 8.2.1 Technical System Audit:

A technical system audit is a quantitative review of a sampling or analytical system. Qualified technical staff members perform audits.

The laboratory system audit results are used to review operations and ensure that the technical and documentation procedures provide valid and defensible data.

Section 8.2.2 Performance Evaluation Audits

Performance evaluation audits quantitatively assess the data produced by a measurement system. Performing an evaluation audit involves submitting certified samples for each analytical method. The matrix standards are selected to reflect the concentration range expected for the sampling program. Any problem associated with PE samples must be evaluated to determine the influence on field samples analyzed during the same time period. The laboratory must provide a written response to any PE sample result deficiencies.

Section 8.2.3 Field Technical Audits

The contractor should routinely observe field operations to ensure consistency and compliance with sampling specifications presented in this document and Quality Assurance Project Plans that will be developed later. An audit checklist should document field observations and activities.

9.0 REFERENCES

U.S. EPA 2001. Laboratory Documentation Requirements for Data Evaluation (R9QA/004.1)

U.S. EPA. 1983. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020, third edition

U.S. EPA. 1988. Methods for Determination of Organic Compounds in Drinking Water (EPA-600/4-88/039)

SAG
040803

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM
ORDER NO.
FOR
INDIVIDUAL DISCHARGERS
UNDER
CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED LANDS

As conditioned by the *Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands Conditional Waiver Order No. ____ (Waiver Order)*, Individual Dischargers shall develop and implement a Monitoring and Reporting Program Plan (MRP Plan) to assess the sources and impacts of waste in discharges from irrigated lands, and where necessary, to track progress in reducing the amount of waste discharged that affects the quality of the waters of the state and its beneficial uses.

The purpose of this Monitoring and Reporting Program (MRP) is to describe the minimum requirements for an acceptable Individual MRP Plan. The purpose of the MRP Plan shall be to monitor the discharge of constituents of concern (COCs) and/or waste in irrigation return flows and stormwater from irrigated lands that are enrolled under the Waiver Order. Dischargers shall prepare and submit to the Regional Board for review and approval by the Executive Officer an MRP Plan that meets the minimum requirements of the MRP and includes site(s) to be monitored, frequency of monitoring, COCs to be monitored, and documentation of monitoring protocols. The Executive Officer will review the MRP Plan to determine if it meets or exceeds the minimum requirements of this Order.

The Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) adopts this MRP pursuant to Water Code Section 13267. The reports required by this Order are required to evaluate impacts of discharges of waste to waters of the state and to determine compliance with the Waiver Order. The Regional Board Executive Officer may revise the MRP as appropriate. Dischargers shall comply with the MRP as revised by the Executive Officer.

I. MONITORING AND REPORTING PROGRAM REQUIREMENTS

Discharger shall submit to the Regional Board a detailed MRP Plan that supports the development and implementation and demonstrates the effectiveness of the program.

The MRP Plan shall be designed to achieve the following objectives:

- a. Assess the sources and impacts of waste discharges from irrigated lands to surface water;
- b. Evaluate compliance with existing narrative and numeric water quality objectives;

- c. Determine the degree of implementation of management practices to reduce discharge of specific COCs that impact water quality;
- d. Determine the effectiveness of management practices and strategies to reduce discharges of COCs that impact water quality; and
- e. Determine concentration and load of COCs in these discharges to surface waters.

The development of a science-based water quality monitoring program is critical for determining actual and potential impacts of discharges of waste from irrigated lands on beneficial uses of surface water (waters of the state) in the Central Valley Region. Determining the existing ecological conditions of agricultural dominated waterbodies in the Central Valley Region is a critical goal of a water quality monitoring program and should be achieved by multiple assessment tools such as toxicity, chemical monitoring and bioassessments as necessary.¹

1. Types of Monitoring and Evaluation

To achieve the objectives of the MRP, at a minimum, the Discharger shall conduct the following types of monitoring and evaluation:

- a. Water Quality (constituents listed in Table 1) and Flow Monitoring;
- b. Toxicity Testing, as necessary;
- c. Pesticide Use Evaluation; and
- d. Evaluation of the effectiveness of management practices.

Water quality must be conducted during the irrigation season (March through August) and storm season (December through February).

- **Water Quality and Flow Monitoring**

Such monitoring is used to assess the sources of COCs and loads in discharges from irrigated lands to surface waters, and to evaluate performance of management practice implementation efforts. Monitoring data shall be compared to existing numeric and narrative water quality objectives.

- **Toxicity Testing**

Activities within the watershed and the use of the receiving waters must be evaluated using aquatic toxicity testing. The purpose of the toxicity testing is to evaluate water quality, primarily through the use of aquatic species toxicity testing, to identify the causes (e.g., sediment, contaminants, salt, etc.) of any water quality impairment, and to determine the sources of contaminants based on the identified causes of impairments. Initial screening shall include conducting sediment and water column toxicity testing once during storm and irrigation

¹ Letter to Art Baggett and Thomas Pinkos from Don Gordon, Agricultural Council of California, August 5, 2002.

seasons (December through August). Toxicity testing shall also be performed when the chemistry (Water Quality) analyses results exceed the LC50 to determine the cause of toxicity. These toxicity testing will also be used to determine if the management program is achieving the goals and objectives identified during planning, including whether the waterbody is maintaining the conditions that are protective of beneficial uses. When water column toxicity testing is conducted, the toxicity test procedures, quality control protocol and acceptance criteria should and at a minimum, meet the criteria listed in *Investigation of Water Quality of Central Valley Drains, Study Plan by V. de Vlaming, T. Young and B. Osburn, University of California, Davis, 2003*. This study plan is available on the Regional Board's website or from the Regional Board's offices.

For the sediment toxicity testing, test procedures and quality control criteria shall follow the criteria listed in *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Freshwater Invertebrates*, Second Edition, US EPA, 2000.

- Pesticide Use Evaluation

The most significant factors influencing the amount of pesticides in surface waters are the timing of pesticide applications, the application rates, the amounts of pesticide applied, and the points of application (all of these factors can be referred to as "use pattern"). This information can be found in the pesticide use reports submitted by the applicators to the County Agricultural Commissioners and Department of Pesticide Regulations (DPR). Changes in pesticide concentrations at specific monitoring sites in the waterbodies need to be compared to pesticide use patterns in land areas upstream of the monitoring sites. By comparing these changes, it can be determined how changing the pesticide use patterns impact water quality. Changing pesticide use patterns can also provide an indicator of the degree of implementation of certain management practices.

- Management Practice Effectiveness and Implementation Tracking

Information must be collected on the type of management practices that are being used, and how effective they are in protecting waters of the state. Data should be collected in four broad areas; 1) pesticide application, pesticide mixing and loading practices; 2) pest management practices; 3) management practices to address COCs (salt, sediment, nitrogen, etc.), and 4) cultural practices. This information may be used to compare the effectiveness of management practices in reducing loading of constituents of concern.

2. Minimum Requirements

The following table lists the minimum requirements for the constituents to be monitored by the Watershed Group.

Table 1. Constituents to be monitored

Constituent	Quantitaion Limit	Reporting Unit	Sampling Frequency
Physical Parameters			
Flow	N/A	CFS (Ft ³ /Sec)	Storm/In season
pH	N/A	pH	Storm/In season
Electrical Conductivity	N/A	µmhos/cm	Storm/In season
Dissolved Oxygen	N/A	mg O ₂ /L	Storm/In season
Temperature	N/A	Degrees Celsius	Storm/In season
Color	N/A	ADMI	Storm/In season
Turbidity	N/A	NTUs	Storm/In season
Total Dissolve Solids	N/A	mg/L	Storm/In season
Total Organic Carbon	N/A	mg/L	Storm/In season
Pesticides			
Carbamates	a	ug/L	Storm/In season
Organochlorines	a	ug/L	Storm/In season
Organophosphorus	a	ug/L	Storm/In season
Pyrethroids	a	ug/L	Storm/In season
Herbicides	a	ug/L	Storm/In season
Metals			
Cadmium	a	ug/L	Storm/In season
Copper	a	ug/L	Storm/In season
Lead	a	ug/L	Storm/In season
Nickel	a	ug/L	Storm/In season
Zinc	a	ug/L	Storm/In season
Nutrients		ug/L	Storm/In season
Total Kjeldahl Nitrogen	a	mg/L	Storm/Inseason
Phosphorus	a	ug/L	Storm/Inseason
Potassium	a	ug/L	Storm/Inseason
Pathogens			Storm/Inseason
E Coli		MPN/100 mL	Storm/Inseason

a Only pesticides used and constituents of concern in the watershed should be analyzed. The required detection limits are listed in Table 2 - Most frequently used pesticides in the Central Valley.

Monitoring should focus narrowly on the fewest possible measurements or indicators that most efficiently demonstrate the overall condition of drainage and the success of the watershed effort relative to protecting beneficial uses. Bioassessments are recommended. The COCs that should be monitored include chemicals that are added to agricultural lands (e.g., pesticides, herbicides) to enhance crop production, constituents that are formed as a result of agricultural land use practices such as total dissolved solids (TDS), total organic carbon (TOC), and other constituents that may be leached from the land. The MRP Plan must include a sufficient number of monitoring sites and surface water flow

monitoring for each location to allow calculation of the load discharged for every COC monitored.

The monitoring will first focus on the COCs that exceed numeric water quality standards or Basin Plan narrative toxicity objectives. Method detection limits and practical quantitation limits shall be reported. All peaks detected on chromatograms shall be reported, including those, which cannot be, quantified and/or specifically identified. The Discharger shall use US EPA approved methods, provided the method can achieve method detection limits equal to or lower than analytical methods quantitation limits specified in this Order.

At a minimum, the MRP Plan must include (1) all COCs on the most recent complete Clean Water Act section 303 (d) list with agricultural sources for any downstream waterbody [303 (d) list is available at the following website: http://www.swrcb.ca.gov/tmdl/303d_lists.html.]; (2) sufficient monitoring sites based on acreage, flow monitoring, and frequency of sample collection to allow for calculation of load discharged for every COC monitored; and (3) measurements of water quality parameters such as temperature, electrical conductivity, pH, and dissolved oxygen. Proper sampling techniques must be used to ensure a sample is representative of the flow in the cross section.

Discharger Specific Requirements

The Discharger specific studies are needed to characterize the beneficial use impairments of the receiving water bodies due to agricultural runoff. For each group of pesticides listed in Table 1, the MRP Plan shall include all of the individual pesticides that are used by the Discharger. **The MRP Plan does not need to include individual pesticides if they are not used by the Discharger.**

The most frequently used pesticides in the Central Valley are listed in Table 2 as a reference. The Discharger shall monitor all site-specific pesticides listed under each pesticide group in Table 1. All pesticides monitored must be reported at a quantitation limit at least less than ten times the LC 50 as listed in Table 2. The quantitation limits reported by the laboratory must be supported by the detection limit study as described in the Quality Assurance Project Plan (QAPP), **Attachment A**, which is attached hereto and made part of this Order by reference.

Table 2. Most frequently used pesticides and other constituents in the Central Valley

Constituent	Toxicity LC50	Quantitation Limits	Reporting Unit	Source of Data/ Ref #
Organophosphorus				
Acephate	>50000 ^a		ug/L	Eco Tox/15574
Azinphos-Methyl	64 ^a	6.4	ug/L	Eco Tox/2820
Chlorpyrifos	.053 ^c	.0053	ug/L	Eco Tox/15462
Diazinon	.41 ^c	.041	ug/L	Eco Tox/15462
Dimethoate	N/D	N/A	ug/L	N/A

MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2003-
FOR INDIVIDUAL DISCHARGERS UNDER CONDITIONAL
WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 6 -

Constituent	Toxicity LC50	Quantitation Limits	Reporting Unit	Source of Data/ Ref #
Disulfoton	3700 ^a	370	ug/L	Eco Tox/936
Ethephon	130000 ^a		ug/L	Eco Tox/344
Malathion	1.14 ^b	.114	ug/L	Eco Tox/18961
Methamidophos	N/D	N/A	ug/L	N/A
Methidathion	N/D	N/A	ug/L	N/A
Methyl Parathion	2.6 ^b	.26	ug/L	Eco Tox/13467
Parathion	1410 ^c	141	ug/L	Eco Tox/605
Phosmet	7300 ^a	730	ug/L	Eco Tox/857
Phorate	250 ^a	25	ug/L	Eco Tox/8096
Pyrethroids				
Bifenthrin	.07 ^b	.007	ug/L	Eco Tox/85
Cyfluthrin	.14 ^b	.014	ug/L	Eco Tox/85
Cypermethrin	N/D	N/A	ug/L	N/A
Esfenvalerate	.32 ^a	.032	ug/L	Eco Tox/14914
Permethrin	.55 ^b	.055	ug/L	Eco Tox/85
Carbamates				
Aldicarb	861 ^a	86.1	ug/L	Eco Tox/3217
Captan	65 ^a	6.5	ug/L	Eco Tox/945
Carbaryl	11.6 ^a	1.16	ug/L	Eco Tox/936
Carbofuran	2.23 ^c	.223	ug/L	Eco Tox/3217
Methiocarb	N/D	N/A	ug/L	N/A
Methomyl	15000 ^a	1500	ug/L	Eco Tox/15574
Organochlorines				
DDT	8.5 ^a	.85	ug/L	Eco Tox/2100
Dicofol	510 ^a	51	ug/L	Eco Tox/10536
Herbicides				
Alachlor	7900 ^b	790	ug/L	Eco Tox/3590
Atrazine	>30000 ^b		ug/L	Eco Tox/3590
Cyanazine	16300 ^a		ug/L	Eco Tox/666
Diclofop	N/D	N/A	ug/L	N/A
Diuron	14200 ^a		ug/L	Eco Tox/12858
Ethalfuralin	N/D	N/A	ug/L	N/A
Glyphosate	97000 ^a		ug/L	Eco Tox/66
Linuron	N/D	N/A	ug/L	N/A
Metolachlor	N/D	N/A	ug/L	N/A
Molinate	>5000 ^b		ug/L	Eco Tox/13467
Norflurazon	N/D	N/A	ug/L	N/A
Oryzalin	N/D	N/A	ug/L	N/A
Oxyfluorfen	N/D	N/A	ug/L	N/A
Paraquat Dichloride	N/D	N/A	ug/L	N/A
Pendimethalin	N/D	N/A	ug/L	N/A
Simazine	6400 ^a	640	ug/L	Eco Tox/344
Thiobencarb	580 ^b	58	ug/L	Eco Tox/13467
Trifluralin	105	10.5	ug/L	Eco Tox/344
Metals				
Cadmium	N/D		ug/L	
Copper	302 ^c		ug/L	Eco Tox/8320
Lead	N/D		ug/L	
Nickel	N/D		ug/L	

MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2003-
FOR INDIVIDUAL DISCHARGERS UNDER CONDITIONAL
WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 7 -

Constituent	Toxicity LC50	Quantitation Limits	Reporting Unit	Source of Data/ Ref #
Zinc	70 ^b		ug/L	Eco Tox/8661
Nutrients				
Nitrate	N/D	N/A	ug/L	
Nitrite	N/D	N/A	ug/L	
TKN	N/D	N/A	ug/L	
Ammonia	N/D	N/A	ug/L	
Phosphorus	N/D	N/A	ug/L	
Pathogens				
E Coli			MPN/100 mL	
Fungicide				
Others				
Borax	N/D	N/A	ug/L	
Imidacloprid	N/D	N/A	ug/L	
Methyl Bromide	N/D	N/A	ug/L	
Propargite	N/D	N/A	ug/L	
Propanil	1520 ^b	152	ug/L	Eco Tox/19808

Notes:

^a LC50 is for 96 hour Pimephale Promela

^b LC50 is for 48 Ceriodaphnia Dubia

^c LC50 is for 96 Ceriodaphnia Dubia

* This list is developed using the USGS National Water Quality Assessment data base and data obtained from the Pesticide use database on pesticides/herbicides that were applied at a rate of >3,000 lbs of active ingredient per county during 2000.

All sampling methods shall have documented protocols. The MRP Plan must include all field and laboratory procedures as stated in the Monitoring Program Requirements and Attachment.

3. Flow Monitoring

All collected samples shall be representative of the volume and nature of the discharge (tailwater, stormwater, etc.). The time, date, and location of each grab sample shall be recorded on the sample chain of custody form and field data sheets. Discharge flow monitoring shall be conducted and shall be reported in cubic feet per second (CFS).

4. Monitoring Seasons

Monitoring required in Section 1 "Monitoring Types" shall be conducted during the storm season, which coincides with the orchard dormant spray application (December through February) and irrigation season (March through August).

5. Monitoring Schedule

The MRP Plan shall be carried out using a systematic schedule. The MRP Plan should indicate the start date, identify time of the year, identify when field studies will take place, define the frequency of sampling, and indicate when the field

studies end. Timing, duration, and frequency of sampling should be based on the complexity, hydrology, and size of the waterbody. Historical data must be reviewed to assist with determining some of these factors. The MRP Plan must include a sufficient number of monitoring sites and surface water flow monitoring for each location to allow calculation of the load discharged for every COC monitored.

At a minimum, the above referenced monitoring types shall be conducted during two storm events and after storm events, and monthly sampling during the peak irrigation season in the watershed to determine the sources of waste discharges from irrigated lands. Toxicity testing maybe required to be conducted once per month during storm and irrigation seasons (December through August). Toxicity testing shall also be performed when the chemistry (Water Quality) analyses results exceed the LC50 to determine the cause of toxicity.

6. Monitoring Sites

The MRP plan shall describe the study area, sampling location(s), GPS coordinates, land use, the chemicals being used and the existing management practices. Sample location(s) should not include main-stem water bodies unless the water body is a Clean Water Act section 303(d) listed water body. The initial focus of the MRP Plan shall be on water bodies that carry agricultural drainage or are dominated by agricultural drainage. A map showing the monitoring sites shall be provided with the MRP Plan.

II. QUALITY ASSURANCE PROJECT PLAN (QAPP)

To create a sound and consistent MRP Plan with other monitoring efforts in the Region, it is important to develop monitoring protocols and a monitoring plan for the evaluation of water quality data. A QAPP must be developed by the Discharger to implement quality assurance components of the monitoring program. **Attachment A** presents the QAPP Requirements and the outline for development of the monitoring QAPP. The QAPP includes the laboratory and field requirements to be used for data evaluation. A Discharger specific QAPP is required to be submitted with the MRP Plan Report. The MRP Plan is a condition of the Conditional Waiver.

III. REPORTING REQUIREMENTS

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the required information is readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with the Waiver Order.

Pursuant to California Water Code (CWC) Section 13267, the following Reports are required to be submitted to the Regional Board by the time schedule identified below.

A. Notice of Intent and General Report Due: 1 September 2003

The Discharger shall submit a Notice of Intent (NOI) and a General Report to the Regional Board. The NOI shall contain all of the information necessary to comply with the terms and conditions of the Waiver Order No. . The NOI and General Report shall include:

1. Discharger name, address and phone number (owner and/or operator)
2. Map(s) of irrigated lands generating the discharge to surface waters. Maps shall include points of discharge (surface or subsurface discharges).
3. Crops commonly grown
4. Chemicals (pesticides, fertilizers, etc.) commonly applied in a manner that may result in the material coming in contact with irrigation water or storm water.
5. Management practices utilized for reducing or eliminating adverse discharges of constituents of concern.
6. Identification of water bodies receiving the discharge(s).
7. Description of any subsurface drainage collection system

B. Discharger – Monitoring and Reporting Program Plan Due: 1 March 2004

The Discharger shall develop and submit to the Regional Board a MRP Plan. The MRP Plan must include the components of the monitoring program as stated in this Order. The MRP Plan shall specify all quality assurance elements including the US EPA test method and detection limits for the required constituents as specified in the QAPP for Monitoring Program Requirements, **Attachment A**. At a minimum, the MRP Plan shall include the following elements:

1. Summary of the water quality historical data;
2. Monitoring site(s);
3. Land Use description;
4. Monitoring periods including monitoring events and frequencies of monitoring during each event;
5. Monitoring parameters/COCs;
6. COCs to be monitored including minimum and site specific;
7. A QAPP consistent with the requirements described in **Attachment A**;
8. Documentation of monitoring protocols including sample collection methods and laboratory quality assurance manual;
9. Management Practice monitoring elements to determine effectiveness in meeting the conditions of the Waiver Order.

C. Annual Monitoring Report

Due: Annual, 1 March

The Annual Monitoring Report (AMR) shall be prepared after field monitoring events have been completed and includes a review of the monitoring program including the results of the data collected and data evaluation. The AMR shall include the following components:

1. A title page;
2. Table of contents;
3. Description of the watershed;
4. Monitoring objectives;
5. Sampling site descriptions;
6. Sampling sites and land use map (GIS);
7. Copy of chain of custodies;
8. Sampling and analytical methods used;
9. Tabulated results of analyses;
10. Associated laboratory and field quality control samples results;
11. Summary of precision and accuracy;
12. Management practices used in the watershed;
13. Pesticide Use Report
14. Data interpretation including assessment of data quality objectives;
15. Corrective Action Reports; and
16. Conclusions and recommendations.

Copies of all field documentation and laboratory original data must be included in the annual monitoring report as attachments. The AMR should also provide a perspective of the field conditions including a description of the weather, rainfall, temperature, stream flow, color of the water, odor, and other relevant information that can help in data interpretation.

Corrective Action Report (CAR) - When monitoring results indicate that water quality objectives are exceeded in the surface waters, the Discharger shall submit a CAR in the AMR. The CAR shall describe how the Discharger will evaluate the effectiveness of one or more management practice(s) being use to prevent discharges of COCs that adversely impact surface waters. A CAR may be submitted to the Regional Board at any time or upon order by the Executive Officer.

A transmittal letter shall accompany each report. This letter shall include a discussion of any violations of the Waiver Order found during the reporting period, and actions taken or planned for correcting noted violations, such as operational, field or facility modifications. If the Discharger has previously submitted a CAR describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall be signed and contain a penalty of perjury statement by the Discharger. This statement shall state:

MONITORING AND REPORTING PROGRAM
ORDER NO. R5-2003-
FOR INDIVIDUAL DISCHARGERS UNDER CONDITIONAL
WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

- 11 -

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

(Date)

CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED LANDS
CONDITIONAL WAIVER NO.

QUALITY ASSURANCE PROJECT PLAN

DISCHARGER MONITORING AND REPORTING PROGRAM

1.0 INTRODUCTION

A Quality Assurance Project Plan (QAPP) shall be developed by the Discharger and shall include site-specific information and field and laboratory quality assurance requirements. This document identifies the major elements of the quality assurance and quality control components that need to be described in the QAPP. The QAPP shall be submitted to the Regional Board for review and approval.

2.0 OBJECTIVE

The objective of this document is to identify the quality assurance components that should be included in the QAPP for the Discharger monitoring. A QAPP contains the requirements and criteria for the field and laboratory procedures used during planning and implementation of the monitoring program. These requirements and criteria shall be presented as a set of procedures to assure that the data collected during a monitoring program represents, as closely as possible, *in situ* conditions of the waterbody. This objective will be achieved by using accepted methodology (e.g., U.S. EPA) to collect and analyze water, sediment, and biota samples. The program's ability to meet this objective will be assessed by evaluating the laboratory results in terms of detection limits, precision, accuracy, comparability, representativeness, and completeness. This document provides a description of major elements of the field and laboratory quality assurance components.

3.0 WHAT SHOULD BE INCLUDED IN THE QAPP

A monitoring QAPP should include Project Management information e.g., project organization and responsibilities, project schedule, and the quality assurance components of the field and laboratory activities. The elements described in this document will provide the framework for developing a QAPP. These elements describe the field and laboratory elements of a QAPP and the requirements that are set forth by the Regional Board. QAPP for the Discharger monitoring must include all the required components as listed in Table No. 1.

ATTACHMENT A
CONDITIONAL WAIVER NO.
DISCHARGER MONITORING AND
REPORTING PROGRAM
QUALITY ASSURANCE PROJECT PLAN

- 2 -

Table No.1. Components of Monitoring Quality Assurance Project Plan

SECTION NUMBER	SECTION NAME	SECTION DESCRIPTION
1.0	PROJECT MANAGEMENT	This section explains the overall project management.
1.1	TITLE PAGE AND APPROVAL	Description of Project Title, organizations, and responsible staff.
1.2	TABLE OF CONTENTS	Table of Contents list the sections and sub-sections included in the QAPP.
1.3	CONTRACT INFORMATION	List the contact staff, organization, and phone numbers.
1.4	PROJECT ORGANIZATION AND RESPONSIBILITY	Identify the project organization and the responsible entities who will ensure the QAPP procedures will be followed.
1.5	PROJECT OBJECTIVES AND APPROACH	Describe the objective based on the goal defined in the Conditional Waiver. Describe the approaches to meet the objectives.
1.5.1	<i>Measurement</i>	Describe the constituents that will be monitored.
1.5.2	<i>Project Schedule</i>	Identify when field studies will take place, the frequency of sampling, and when the field studies end.
1.6	QUALITY OBJECTIVES AND CRITERIA FOR DATA MEASUREMENT	Describe the quality objectives and criteria for data measurement. Refer to Quality Control Requirements listed in this document.
1.7	TRAINING AND CERTIFICATION	Describe the procedures for training field and laboratory staff.
1.8	DOCUMENTATION AND RECORDS	Describe the documentation procedure and record keeping for the monitoring program.
1.8.1	<i>Data to be Included in Reports</i>	List the laboratory and field data that will be included in the report.
1.8.2	<i>Reporting Format</i>	Explain what type of data will be included in the final report. Describe how the data that didn't meet the quality objectives will be qualified (e.g., estimated, usable, unusable).
2.0	DATA ACQUISITION	This section describes the sampling design and sample collection criteria
2.1	SAMPLING DESIGN	Describe the sampling design.
2.2	RATIONALE FOR THE DESIGN	Describe the purpose of the study. State if the design is based on a statistical or judgmental data collection method.
2.2.1	<i>Procedure for locating and Selecting Environmental Samples</i>	Describe procedures for locating and selecting the monitoring site/location(s).
2.2.2	<i>Classification of Measurements as Critical</i>	All measurements shall be classified as critical. Describe the process that will ensure that data will undergo closer scrutiny during data review.
2.2.3	<i>Validation of any Nonstandard methods</i>	List the non-standard methods that will be used and describe the procedures to validate the method.
3.0	FIELD PROCEDURES	Describe the field procedures for the elements listed below. Refer to the Field Procedures (Section 3.0) to meet the requirements for this monitoring program.
3.1	SAMPLE COLLECTION METHODS	See Section 3.0 for criteria. Describe the project specific methods.
3.1.1	<i>Sample Storage, Preservation and Holding Times</i>	See Section 3.0 for criteria. Describe the project specific procedures.
3.1.2	<i>Sample Identification Scheme</i>	See Section 3.0 for criteria. Describe the project specific procedures.
3.1.3	<i>Field Measurements</i>	See Section 3.0 for criteria. Describe the project specific methods of field measurement.
3.1.4	<i>QC Sample Collection</i>	See Section 3.0 for criteria. Describe the project specific quality control samples.
3.1.5	<i>Field Instrument Calibration</i>	See Section 3.0 for criteria. Describe the project specific methods of calibration.
3.1.6	<i>Decontamination Procedures</i>	See Section 3.0 for criteria. Describe the project specific documentation procedure.
3.1.7	<i>Field Documentation</i>	See Section 3.0 for criteria. Describe the project specific field documentation procedure.
3.2	SAMPLE CUSTODY AND DOCUMENTATION	This section describes the sample custody and documentation procedures.
3.2.1	<i>Documentation Procedures</i>	Describe the field documentation procedures.
3.2.2	<i>Chain-of-Custody Procedures and Form</i>	See Section 3.0 for criteria. Describe the Chain of Custody procedures.
3.2.3	<i>Sample Shipments and Handling</i>	See Section 3.0 for criteria. Describe the sample shipment procedure. How the samples will be delivered from the field to the laboratory.
3.2.4	<i>Laboratory Custody Procedures</i>	See Section 3.0 for criteria. Describe the project laboratory custody procedures.
4.0	ANALYTICAL METHOD REQUIREMENTS	This section describes the analytical method requirements.
4.1	CHEMISTRY ANALYSIS	Describe the chemistry analyses procedure, reference the published method, and identify the quantitation procedures.
4.2	TOXICITY TESTING	Describe the toxicity testing method and procedure, species, and reference the published methods being followed.
4.3	DETECTION AND QUANTITATION LIMITS	Describe the detection and quantitation limits for all constituents. See

ATTACHMENT A
CONDITIONAL WAIVER NO.
DISCHARGER MONITORING AND
REPORTING PROGRAM
QUALITY ASSURANCE PROJECT PLAN

- 3 -

SECTION NUMBER	SECTION NAME	SECTION DESCRIPTION
		Section 4.0 for requirements.
4.4	LABORATORY STANDARD AND REAGENTS	Describe the reagents used in the laboratory and how they are checked for the quality.
4.5	SAMPLE PREPARATION PROCEDURES	Describe the sample preparation procedure and the reference method for each analytical method used and every constituent being monitored
5.0	QUALITY CONTROL REQUIREMENTS	This section describes the laboratory and field quality control. Laboratory and field sampling SOP should be provided to include the detail information.
5.1	DATA QUALITY OBJECTIVES AND QUALITY ASSURANCE OBJECTIVES	Describe the precision, accuracy, comparability, and completeness criteria for this project. See Section 5.0 for required information.
5.2	DEVELOPMENT OF PRECISION AND ACCURACY	Provide information on how the precision and accuracy will be developed for this project. See Section 5.0 for required information.
5.3	INTERNAL QUALITY CONTROL SAMPLES	Describe and list the internal QC samples, the frequency and acceptance criteria.
5.4	FIELD QUALITY CONTROL SAMPLES	Describe and list the type of field QC samples, the frequency of collection, and the acceptance criteria.
5.5	LABORATORY QUALITY CONTROL SAMPLES	Describe the laboratory QC samples and the frequency of analyses.
6.0	INSTRUMENTATION AND EQUIPMENT PREVENTATIVE MAINTENANCE	This section describes the instrumentation and preventive maintenance.
6.1	SAMPLE EQUIPMENT CLEANING PROCEDURES	Describe the sampling equipment cleaning procedures.
6.2	ANALYTICAL INSTRUMENT AND EQUIPMENT TESTING PROCEDURES AND CORRECTIVE ACTIONS	List the analytical instrument, manufacturer, maintenance procedure, and corrective actions when instruments are not operating within the required operating limits.
6.3	INSTRUMENT CALIBRATION AND FREQUENCY	This section describes the instrument calibration procedures and frequency of calibration
6.3.1	<i>Analytical Procedures and Calibration</i>	Describe the calibration procedure and frequency for each analytical method used in this monitoring program. Refer to Section 6.0 to follow the required procedure.
7.0	DATA MANAGEMENT	Describe the data management procedure. Where the original data will be kept, who receive the copy of the data, and who is responsible for maintaining the database.
7.1	DATA ASSESSMENT PROCEDURES	How the data will be assessed and what tools will be used to assess the data.
7.1.1	<i>Training and Certification</i>	Describe the training requirements for the field and laboratory staff.
7.1.2	<i>Data to be included in the Report</i>	Specify the data that will be included in the monitoring report. See Section 7.0 for requirements
8.0	DATA VALIDATION AND USABILITY	This section describes the data validation and usability.
8.1	LABORATORY DATA REVIEW, VERIFICATION AND REPORTING	Describe the laboratory procedure for data review and validation prior to release of the data.
8.2	DATA SYSTEM AUDITS	Describe any audit that the system may undergo during the monitoring.
8.2.1	<i>Technical System Audit</i>	Describe the frequency and procedure for the technical system audit.
8.2.2	<i>Performance Evaluations Audit</i>	Describe the procedure for performing a PE sample.
8.2.3	<i>Field Technical Audits</i>	Identify the entity who will be conducting the field technical audit and describe the procedure for conducting the audit.
9.0	REFERENCES	List all the references used to prepare the QAPP.
	ATTACHMENTS	List and enclose the attachments required. (e.g., Laboratory Quality Assurance Manual and SOPs).

In order to provide some technical information in preparing the QAPP, Sections 3.0 through 8.2.3 of the QAPP listed in Table No.1 are discussed in more detail below.

These sections focus primarily on the quality assurance and quality control components of the field and laboratory procedures. The section numbers provided below correspond to the Table No. 1 section numbers and section titles for ease of use.

SECTION 3.0 FIELD PROCEDURES

Surface water and sediment samples will be collected for chemical analyses and biological toxicity testing. While the primary focus will be the collection of samples for pesticide analyses, other constituents will be required as listed in the *Discharger Monitoring and Reporting Program*.

Section 3.1 Sample Collection Methods

Proper sampling techniques must be used to ensure that a sample is representative of the flow in the cross section. Samples should be collected using a standard multi-vertical depth integrating method to obtain the most representative isokinetic sample possible. By using this method the water entering the sampler is hydrodynamically equivalent to the portion of the stream being sampled. Abbreviated sampling methods (i.e., weighted-bottle or dip sample) can also be used for collecting a representative sample of the stream chemistry.

Section 3.1.1 Sample Storage, Preservation and Holding Times

Sample containers must be pre-cleaned and certified to be free of contamination according to the United States Environmental Protection Agency (U.S. EPA) specification for the appropriate methods.

Section 3.1.2 Sample Identification Scheme

All samples must be identified with a unique number to ensure that results are properly reported and interpreted. Samples must be identified such that the site, sampling location, matrix, sampling equipment and sample type (i.e., normal field sample or QC sample) can be distinguished by a data reviewer or user.

Section 3.1.3 Field Measurements

For all water bodies sampled, water quality parameters including pH, specific conductance, dissolved oxygen, and temperature must be measured prior to collecting samples for laboratory analyses.

Section 3.1.4 QC Sample Collection

Equipment blanks, field duplicates, and matrix spikes must be collected at a frequency of about 1 per 20 normal samples. Matrix spikes will be collected as, normal samples and will be spiked at the laboratory prior to sample preparation.

Section 3.1.5 Field Instrument Calibration

Routine field instrument calibration must be performed at least once per day prior to instrument use to ensure instruments are operating properly and producing accurate and reliable data. Calibration should be performed at a frequency recommended by the manufacturer.

Section 3.1.6 Decontamination Procedures

All field and sampling equipment that will contact samples must be decontaminated after each use in a designated area.

Section 3.1.7 Field Documentation

All field activities must be adequately and consistently documented to ensure defensibility of any data used for decision-making and to support data interpretation. Pertinent field information, including (as applicable), the width, depth, flow rate of the stream, the surface water condition, and location of the tributaries must be recorded on the field sheets.

Section 3.2 Sample Custody and Documentation

Sample custody must be traceable from the time of sample collection until results are reported. Sample custody procedures provide a mechanism for documenting information related to sample collection and handling.

Section 3.2.1 Documentation Procedures

A field activity coordinator must be responsible for ensuring that the field sampling team adheres to proper custody and documentation procedures. A master sample logbook or field datasheets shall be maintained for all samples collected during each sampling event.

Section 3.2.2 Chain-of-Custody Form

A chain-of-custody (COC) form must be completed after sample collection and prior to sample shipment or release. The COC form, sample labels, and field documentation must be crossed checked to verify sample identification, type of analyses, number of containers, sample volume, preservatives and type of containers.

Section 3.2.3 Sample Shipments and Handling

All sample shipments are accompanied with the COC form, which identifies the contents. The original COC form accompanies the shipment and a copy is retained in the project file.

All shipping containers must be secured with COC seals for transportation to the laboratory. The samples must be placed with ice to maintain the temperature between 2-4 degrees C. The ice packed with samples must be sealed in zip lock bags and contact each sample and be approximately 2 inches deep at the top and bottom of the cooler. Samples must be shipped to the contract laboratories according to Department of Transportation standard.

Section 3.2.4 Laboratory Custody Procedures

The following sample control activities must be conducted at the laboratory:

- Initial sample login and verification of samples received with the COC form;
- Document any discrepancies noted during login on the COC;
- Initiate internal laboratory custody procedure;
- Verify sample preservation (e.g., temperature);
- Notify the project coordinator if any problems or discrepancies are identified; and
- Proper samples storage, including daily refrigerator temperature monitoring and sample security.

SECTION 4.0 ANALYTICAL REQUIREMENTS

Section 4.1 Chemistry Analyses

Water quality samples will be analyzed on unfiltered (whole) fractions of the samples. Prior to the analysis of any environmental samples for pesticides, the laboratory must have demonstrated the ability to meet the minimum performance requirements for each analytical method. Initial demonstration of laboratory capabilities includes the ability to meet the project specified quantitation limits (QL), the ability to generate acceptable precision and recoveries, and other analytical and quality control parameters as stated in this Guide. Analytical methods used for chemistry analyses must follow a published method and document the procedure for sample analyses in a laboratory standard operation procedure (SOP) for review and approval.

Section 4.2 Toxicity Testing

The ambient water toxicity test results must provide a reliable qualitative prediction of impacts to in stream biota. At a minimum the toxicity testing will need to include the 4-day static renewal procedures described in Method for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (US EPA, 1993).

Section 4.3 Detection and Quantitation Limits

Method Detection Limit Studies

Each laboratory performing analyses under this program must routinely conduct method detection limit (MDL) studies to document that the MDLs are less than the project-specified QLs. If any analytes have MDLs that do not meet the project QLs, the following steps must be taken:

1. Perform a new MDL study using concentrations sufficient to prove analyte quantitation at concentrations less than the project-specified QLs per the procedure for the Determination of the Method Detection Limit presented in Revision 1.1," 40 Code of Federal Regulations (CFR) 136, 1984.
 2. No samples may be analyzed until the issue has been resolved. MDL study results must be available for review during audits, data review, or as requested. Current MDL study results must be reported at the beginning of every project for review and inclusion in project files.
- An MDL is developed from seven aliquots of a standard containing all analytes of interest spiked at five times the expected MDL, which are taken through the analytical method sample processing steps. The data are then evaluated and used to calculate the MDL. If the calculated MDL is less than three times below the spiked concentration, another MDL study must be performed using a lower concentration

Project Quantitation Limits

Laboratories generally establish QLs that are reported with the analytical results; these may be called reporting limits, detection limits, reporting detection limits, or other terms. These laboratory limits must be less than or equal to the project QLs. Project QLs must be lower than the proposed or existing numeric water quality objectives by the Regional Board. The laboratories must have documentation to support quantitation at the required levels.

Laboratories must report analytical results between the MDL and QL. These results must be reported as numerical values and qualified as estimates. Reporting as “trace” or “<QL” is not acceptable. Sample results less than MDLs will be reported only for GC/MS analyses if the mass spectral fingerprint can prove positive identification; these results must be qualified as estimated values by the laboratory.

Section 4.4 Laboratory Standards and Reagents

All stock standards and reagents used for extraction and standard solutions must be tracked through the laboratory. The preparation and use of all working standards must be recorded in bound laboratory notebooks that document standard tractability to U.S. EPA, A2LA or National Institute for Standards and Technology (NIST) criteria. Records must have sufficient detail to allow determination of the identity, concentration, and viability of the standards including any dilutions performed to obtain the working standard. Date of preparation, analyte or mixture, concentration, name of preparer, lot or cylinder number, and expiration date, if applicable, must be recorded on each working standard.

Section 4.5 Sample Preparation Methods

Surface water and sediments samples will be prepared in solvent or via other extraction techniques prior to sample analyses. All procedures must follow a published method. The sample preparation procedure must be documented and included in the monitoring plan for review and approval.

SECTION 5.0 QUALITY CONTROL REQUIREMENTS

The types of quality control assessments required in the monitoring program are discussed below. Detailed procedures for preparation and analysis of quality control samples must be provided in the analytical method documents or Standard Operating Procedures (SOP) by the analytical laboratories for approval.

Section 5.1 Quality Assurance Objectives (QAOs)

Quality assurance objectives are the detailed QC specifications for precision, accuracy, representativeness, comparability, and completeness (PARC). The QAOs are then used as comparison criteria during data quality review by the group that is responsible for collecting data to determine if the minimum requirements have been met and the data may be used as planned.

Section 5.2 Development of Precision and Accuracy Objectives

Laboratory control spikes (LCSs) are used to determine the precision and accuracy objectives. The laboratory fortifies the LCSs with target compounds to monitor the laboratory precision and accuracy. Field duplicates measure sampling precision and variability for comparison of project data. Acceptable relative percent difference (RPD) is less than 25 for field duplicate analyses. If field duplicate sample results vary beyond these objectives, the results are qualified.

Section 5.3 Internal Quality Control (QC)

Internal quality control (QC) is achieved by collecting and/or analyzing a series of duplicate, blank, spike, and spike duplicate samples to ensure that analytical results are within the specified QC objectives. The QC sample results are used to quantify precision and accuracy and identify any problem or limitation in the associated sample results. The internal QC components of a sampling and analyses program will ensure that the data of known quality are produced and documented. The internal QC samples, frequency, acceptance criteria, and corrective action must meet the minimum requirements presented in the following sections.

Section 5.4 Field Quality Control

Field QC samples are used to assess the influence of sampling procedures and equipment used in sampling. They are also used to characterize matrix heterogeneity.

For basic water quality analyses, quality control samples to be prepared in the field will consist of equipment blanks, field duplicates, and matrix spikes (when applicable). The number of field duplicates and field blanks are set to achieve an overall rate of at least 5% of all analyses for a particular parameter. The external QA samples are rotated among sites and events to achieve the overall rate of 5% field duplicate samples and 5% equipment blanks (as appropriate for specific analyses).

Equipment Blanks

Equipment blanks will be collected and analyzed for all analytes of interest along with the associated environmental samples. Equipment blanks will consist of laboratory-prepared blank water (certified contaminate free) processed through the sampling equipment using the same procedures used for environmental samples.

Field Duplicates

Field duplicates will be collected at the rate of one per sampling event, and analyzed along with the associated environmental samples. Field duplicates will be collected at the same time as environmental samples or of two grab samples collected in rapid succession. If the relative percent difference (RPD) of field duplicate results is greater than 25% and the absolute difference is greater than the RL, both samples should be reanalyzed.

Matrix Spikes and Matrix Spike Duplicates

Matrix spikes and matrix spike duplicates will be analyzed at the rate of one pair per sample batch. Matrix spike samples are collected at the same time as the environmental samples and are spiked at the laboratory. Laboratory acceptance criteria should be submitted to the Regional Board staff for review and approval as part of the development and approval of the Scope of Work for monitoring.

Section 5.5 Laboratory Quality Control

For basic water quality analyses, quality control samples prepared in the contract laboratory will typically consist of method blanks, laboratory control samples, laboratory duplicates, and surrogate added to each sample (organic analysis).

Method Blanks

Method blanks will be prepared and analyzed by the contract laboratory with each batch of samples. If any analyte is detected in the blank, the blank and the associated samples must be re-extracted and re-analyzed.

Laboratory Control Samples and Surrogate

Laboratory control samples (LCS) will be analyzed at the rate of one per sample batch. Surrogate may be added to samples for organic analyses. Laboratory acceptance criteria must be submitted to Regional Board staff for review and approval as part of the development and approval of the monitoring plan.

SECTION 6.0 INSTRUMENTATION AND EQUIPMENT PREVENTIVE MAINTENANCE

Section 6.1 Sample Equipment Cleaning Procedures

Equipment used for sample collection must be cleaned according to the specific procedures documented in each sampling SOP. Sampling SOP will be prepared by the group responsible for sampling and will be submitted to Regional Board for review and approval as part of the monitoring plan.

Section 6.2 Analytical Instrument and Equipment Testing Procedures and Corrective Actions

Testing, inspection, maintenance of analytical equipment used by the contract laboratory, and corrective actions shall be documented in the quality assurance manuals for each analyzing laboratory. Laboratory Quality Assurance Manual must be submitted to Regional Board for review and approval prior to start of sampling and analyses.

Section 6.3 Instrument Calibrations and Frequency

Section 6.3.1 Analytical Procedures and Calibration

This section briefly describes analytical methods and calibration procedures for samples that will be collected under this monitoring program.

Analytical methods that will be used in this program will need to follow the general guidance of any of the following methods:

- *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA-600/4-85/054)
- *U.S. EPA Methods for Chemical Analysis of Water and Wastes* (EPA-600/4-79-020, third edition, 1983)
- *Methods for Determination of Organic Compounds in Drinking Water* (EPA-600/4-88/039)
- *Standard Methods for the Examination of Water and Wastewater*
- *Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (US EPA, 1993)

For this program, only linear calibration with either an average response factor or a linear regression is acceptable for organic analyses. Non-linear calibration is not allowed since using this calibration option creates a potential for poor quantitation or biased concentrations of compounds at low or high concentrations (near the high and low ends of the calibration range).

Laboratories shall prepare an initial 5-point calibration curve, where the low level standard concentrations is less than or equal to the analyte quantitation limits

SECTION 7.0 DATA MANAGEMENT

Copies of field logs, a copy of COC forms, original preliminary and final lab reports, and electronic media reports must be kept for review by the Regional Board Staff. The field crew must retain original field logs. The contract laboratory shall retain original COC forms. The contract laboratory will retain copies of the preliminary and final data reports.

Concentrations of chemicals and toxicity endpoints, and all numerical biological parameters shall be calculated as described in the referenced method document for each analyte or parameter, or laboratory operating procedures. The data generated shall be converted to a standard database format maintained by the responsible party and available for the Regional Board staff review. After data entry or data

transfer procedures are completed for each sample event, data should be inspected for data transcription errors, and corrected as appropriate. After the final QA checks for errors are completed, the data should be added to the final database.

Section 7.1 Data Assessment Procedures

Data must be consistently assessed and documented to determine whether project quality assurance objectives (QAOs) have been met, quantitatively assess data quality and identify potential limitations on data use. Assessment and compliance with quality control procedures will be undertaken during data collection phase of the project.

Section 7.1.1 Training and Certification

All staff performing field or laboratory procedures shall receive training to ensure that the work is conducted correctly and safely. At a minimum, all staff shall be familiar with the field guidelines and procedures and the laboratory SOP included in the project QAPP. All work shall be performed under the supervision of experienced staff, field managers, laboratory managers or other qualified individuals. A copy of the staffs' training records must be maintained in each specific project file.

Section 7.1.2 Data to be Included in Data Reports

For each sampling event, the field team or monitoring agency shall provide the Project Lead Staff with copies of the field data sheets (relevant pages of field logs) and copies of the COC forms for all samples submitted for analysis. At minimum, the following sample-specific information must be provided for each sampling program to the Regional Board staff:

- Sample Identification
- Monitoring location
- Sample type, e.g. grab or composite type (Cross-sectional, flow-proportional, etc.)
- QC sample type and frequency
- Date and time(s) of sample collection
- Requested analyses (specific parameters or method references)
- Results of samples collected and all laboratory QC samples (calibrations, blanks, surrogates, laboratory spikes, matrix spikes, reference materials, etc.) and the identification of each analytical sample batch.

Section 7.1.3 Reporting Format

All results meeting data quality objectives and results having satisfactory explanations for deviations from objectives shall be reported on the Laboratory Final Report. The final results shall include the results of all field and laboratory quality control samples.

SECTION 8.0 DATA VALIDATION AND USABILITY

Section 8.1 Laboratory Data Review, Verification, and Reporting

The laboratory quality assurance manual must be used to accept, reject or qualify the data generated by the laboratory. The laboratory management will be responsible for validating the data generated by the laboratory.

The laboratory personnel must verify that the measurement process was “in control” (i.e., all specified data quality objectives were met or acceptable deviations explained) for each batch of samples before proceeding with analysis of a subsequent batch. In addition, each laboratory will establish a system for detecting and reducing transcription and/or calculation errors prior to reporting data.

Only data, which have met data quality objectives, or data, which have acceptable deviations explained will be submitted by the laboratory. When QA requirements have not been met, the samples will be reanalyzed when possible and only the results of the reanalysis will be submitted, provided they are acceptable.

Section 8.2 Data System Audits

The Regional Board staff may audit laboratories during conducting sample analyses for this program.

Section 8.2.1 Technical System Audit:

A technical system audit is a quantitative review of a sampling or analytical system. Qualified technical staff members perform audits.

The laboratory system audit results are used to review operations and ensure that the technical and documentation procedures provide valid and defensible data.

Section 8.2.2 Performance Evaluation Audits

Performance evaluation audits quantitatively assess the data produced by a measurement system. Performing an evaluation audit involves submitting certified samples for each analytical method. The matrix standards are selected to reflect the concentration range expected for the sampling program. Any problem associated with PE samples must be evaluated to determine the influence on field samples analyzed during the same time period. The laboratory must provide a written response to any PE sample result deficiencies.

Section 8.2.3 Field Technical Audits

The contractor should routinely observe field operations to ensure consistency and compliance with sampling specifications presented in this document and Quality Assurance Project Plans that will be developed later. An audit checklist should document field observations and activities.

9.0 REFERENCES

U.S. EPA 2001. Laboratory Documentation Requirements for Data Evaluation (R9QA/004.1)

U.S. EPA. 1983. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020, third edition

U.S. EPA. 1988. Methods for Determination of Organic Compounds in Drinking Water (EPA-600/4-88/039)

SAG
040803

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION NO.

APPROVING AN INITIAL STUDY
AND
ADOPTING A NEGATIVE DECLARATION
FOR
CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

WHEREAS,

1. The California Regional Water Quality Control Board, Central Valley Region (Regional Board) proposes to adopt a Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Conditional Waiver Order No.), which revises the Conditional Waiver adopted in Resolution No. R5-2002-0201 on 5 December 2002; and
 2. The Regional Board is the lead agency for this project pursuant to the California Environmental Quality Act and has conducted an Initial Study in accordance with Title 14 California Code of Regulations (CCR) section 15063; and
 3. Conditions included in the proposed Conditional Waiver Orders and identified in the Negative Declaration will avoid the project's potential significant effects or will reduce such effects to a less than significant impact; and
 4. Copies of the Initial Study and proposed Negative Declaration were transmitted to or made available to all agencies and persons known to be interested in these matters and the public notice provided exceeded the legal requirements for such notice; and
- The comments received have been addressed; and
5. The Regional Board considered all testimony and evidence at a public meeting held on 5 December 2002 in Sacramento, California, and good cause was found to approve the Initial Study and adopt a Negative Declaration, and
 6. The Initial Study and Negative Declaration has been modified, consistent with Title 14 CCR section 15073.5(c), to include information, such as reports and studies on impacts of agricultural discharges to waters of the state, contained in the Regional Board's records to clarify the initial study (See Attachment A to this Resolution); and

RESOLUTION NO.
APPROVING AN INITIAL STUDY
AND ADOPTING A NEGATIVE DECLARATION
FOR CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

The Regional Board proposes to re-approve the Initial Study and readopt the Negative Declaration to include this information, and consistent with Title 14 CCR section 15073.5(c) recirculation of the Initial Study and Negative Declaration is not required.

THEREFORE BE IT RESOLVED, that the California Regional Water Quality Control Board, Central Valley Region:

1. Withdraws the previously approved Initial Study and Negative Declaration
2. Approves the Initial Study, and
3. Adopts the revised Negative Declaration for the *Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands*, and
4. Finds that the adoption of the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands will not have a significant impact on the environment because the conditions of the waiver, including requirements to monitor surface water, determine waste loads, and review and implement effective management practices, will result in improvements in the quality of the waters of the state.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Valley Region, on 24 April 2003.

THOMAS R. PINKOS, Executive Officer

RESOLUTION NO.
APPROVING AN INITIAL STUDY
AND ADOPTING A NEGATIVE DECLARATION
FOR CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

ATTACHMENT A

List of reports and studies on impacts of agricultural discharges to waters of the state include:

- I. Central Valley Regional Water Quality Control Board, Bay Protection Program Toxic Hot Spot Cleanup Plans for Diazinon in Orchard Dormant Spray, Diazinon and Chlorpyrifos in Urban Stormwater, Chlorpyrifos in Irrigation Return Flows (Draft., October 2002).
2. Sacramento River Watershed Program, Organophosphate Pesticide Focus Group, Technical Memorandum: Study of Diazinon Runoff in the Main Canal Basin During the Winter 2000-2001 Dormant Spray Season (Draft, July 16, 2002).
3. Central Valley Regional Water Quality Control Board: Algae Toxicity Study, Monitoring Results: 2000-2001 (August 2002).
4. Grober, Leslie and Eric Oppenheimer, Central Valley Regional Water Quality Control Board, San Joaquin Salt and Boron TMDL Progress Update (August 28, 2001).
5. Staff Report for the Central Valley Regional Water Quality Control Board, Total Maximum Daily Load for Salinity and Boron in the Lower San Joaquin River: Appendices A through G (January 2002).
6. Grober, Leslie and Shakoora Azimi, San Joaquin River Organophosphorous Pesticides TMDL Workshop, Current Activities of the California Regional Water Quality Control Board, Central Valley (January 17 & 18, 2001).
7. Azimi, Shakoora and Mary Menconi, San Joaquin River Organophosphorous Pesticides TMDL Workshop: Draft Numeric Target, California Regional Water Quality Control Board, Central Valley (June 21, 2001).
8. Central Valley Regional Water Quality Control Board, San Joaquin River OP Pesticide TMDL, Problem Statement (November 2, 2000).
9. Central Valley Regional Water Quality Control Board, Draft Program of the Implementation Report for the Control of Diazinon in the Sacramento and Feather Rivers (May 2002).
10. Central Valley Regional Water Quality Control Board, Sacramento and Feather River Diazinon Total Maximum Daily Load Report (May 2002).

RESOLUTION NO.
APPROVING AN INITIAL STUDY
AND ADOPTING A NEGATIVE DECLARATION
FOR CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES FROM IRRIGATED LANDS

ATTACHMENT A (cont.)

11. Azimi-Gaylon, Shakoora et al., Central Valley Regional Water Quality Control Board, Diazinon and Chlorpyrifos Target Analysis (Draft, June 21, 2001).
12. Kuivila, Kathryn M., Holly D. Barnett and Jody L. Edmonds, Herbicide Contributions in the Sacramento-San Joaquin Delta, California, U.S. Geological Survey (1999).
13. Kuivila, Kathryn M., Studies Relating Pesticide Concentrations to Potential Effects on Aquatic Organisms in the San Francisco Bay-Estuary, California, U.S. Geological Survey (1999).
14. Interagency Ecological Program for the San Francisco Estuary, IEP Newsletter, Vol. 13, No. 4 (Fall 2000).
15. Dileanis, Peter D., Kevin P. Bennett, and Joseph L. Domagalski, Occurrence and Transport of Diazinon in the Sacramento River, California, and Selected Tributaries During Three Winter Storms, January February 2000 (USGS 2002).
16. Panshin, Sandra Y., Neil M. Dubrovsky, JoAnn M. Gronberg, and Joseph L. Domagalski, Occurrence and Distribution of Dissolved Pesticides in the San Joaquin River Basin, California (USGS; Water Resources Investigations Report 98-4032) (1998).